



APPLEGARTH
HOUT BAY

Design Manual

19 May 2017

Applegarth Estate
Design Manual Rev: 6 – 19 May 2017

Table of contents

1. Introduction.....	3
2. Vision.....	4
3. Architectural Guidelines.....	5
3.1 Coverage	
3.2 Building Lines - Disturbance footprints	
3.3 Height restrictions	
4. Built Form.....	6
4.1 Plan, shape & form	
4.2 Roofs	
4.3 Other roof elements	
4.4 Openings, windows & doors	
4.5 Other elements	
5. Exterior Wall Finishes.....	18
5.1 Specific wall materials	
6. Passive Design.....	19
6.1 Passive solar principles	
6.2 Thermal mass	
6.3 Insulation	
6.4 Cross ventilation	
7. Sustainable Principles.....	21
7.1 Energy	
7.2 Photovoltaic cells	
7.3 Passive solar water	
7.4 Lighting	
7.5 Electrical appliances	
7.6 Water	
7.7 Rainwater harvesting and storage	
7.8 Bore-hole (ground) water	
7.9 Wastewater & waste	
7.10 Water saving appliances	

Annexure 1 - Submission Checklist

Annexure 2 - Material Selection

1. Introduction

The purpose of this manual is to make owners and their architects aware of building requirements for the estate. Information relating to the required procedures for approval of buildings, structures and any alterations or additions thereto is covered. Having followed this manual owners will be able to obtain the necessary approval from the Applegarth Owners Association (“AOA”) prior to submitting building plans to the controlling authorities for approval prior to construction.

This manual sets out parameters for establishing the overall image, identity, value and appearance of Applegarth Estate. This Design Manual allows for a broad range of personal preference where the external appearance of the individual properties is concerned, while retaining the overall character of the development by the use of certain common elements. The landscaping theme also serves to unify the overall design of the Estate.

Individual diagrams for each erf give a clear indication of site-specific planning restrictions. Such restrictions relate to building setbacks, servitudes and, protected areas. Vegetation, specifically trees, which must be retained, are also indicated.

Owners must employ the services of a South African Council for the architectural profession (SACAP) registered architect for the design of their houses, for the minimum of work Stages 1-4a, which includes submission of building plans to the AOA and the controlling municipal authorities. Owners are, however, strongly encouraged to make use of a full architectural service including site supervision and administration.

The owner must submit to the association the information listed on the checklist (Annexure 1) of requirements relating to the details to be provided for the plan approval process.

Architects working within the estate need to include in their application to the AOA this completed checklist including a site survey with at least 1m contour intervals, from a registered land surveyor. After the conceptual sketch plan is approved the full set of council submission drawings must receive the AOA approval stamp, prior to submission to the City of Cape Town.

Additions and renovations to a dwelling need to be addressed as a complete new submission and must follow the same procedure as a new build.

Any plans for outside living areas are subject to design review committee, and must follow the guidelines with regards to form and materials. These include areas built after the original construction has been approved or completed.

The owner and his contractor will be subject to both the provisions of the Environmental Management Programme (EMPr), and a Builder’s Code of Conduct (BCC), which will be administered by the Applegarth Owners Association (“AOA”) and which contain obligations and penalties for any breach of the contract.



2. The Vision

Applegarth Estate was originally one of many small subsistence farms above Hout Bay. The site is 3.047 hectares in extent and will consist of 30 erven with a central wetland natural greenbelt. Set on the north facing slopes of the Vlakkenberg Mountain Ridge, the erven orientate north towards the dramatic views of the pristine Orange Kloof Nature Reserve.

It is envisioned that the built environment of Applegarth Estate will reflect the natural environment and Cape Mountain backdrop, with emphasis on an aesthetic that 'blends' into the surroundings.

It is intended that designers adopt sensible, practical, passive architectural design concepts. The architecture must maximize views and orientation while retaining privacy and considering prevailing weather conditions.

While no specific architectural style is prescribed, it is intended that an architectural language is developed that answers the design criteria described herein and in doing so will result in an architecture that is similar in form and bound together by the controlled use of cohesive colour tones and materials.

The massing of the built form will also be typified by fragmentation of the building to produce forms that are broken up into smaller less imposing elements. Courtyard architecture is encouraged to enhance privacy and factor in the weather within the estate and is to be created by the arrangement of major plan forms and enclosure by means of free standing and retaining walls.

The steeper erven require a unique interpretation of the building form with architecture that is sympathetic to the topography where natural retaining elements that form part of the terracing will be enhanced through appropriate landscaping. It is also critical that the roof architecture is sympathetic in form and material to the homes behind, that will generally look down upon them.

With the site generally enjoying both north facing slope and north facing views, it is presumed that north facing walls will be designed with large expanses of glass to maximize views, but that these facades have the appropriate elements to protect this glass for the direct heat gains in summer. It is encouraged that the glass dominant north facade is contrasted with solid elements on the other facades. In addition, the east and west facades, while possibly not requiring the same extent of glazing relating to view, will also still need to be protected from the direct sun and unwanted summer heat gains.

Exploration of self-sustained and off the "grid" infrastructure, achieved through alternative energy sources, rainwater harvesting and waste management is encouraged. It is the aim that this sustainable project will lead to lower operating costs, improved occupant health and reduced environmental impacts.

It is envisioned that in achieving these goals an architecture will evolve that is extremely simple in its approach to form, constructed from practical, long lasting, low impact, sustainably-produced and managed materials.



3. Architectural Design Guidelines

Note that the following guidelines are in addition to the City of Cape Town zoning constraints of SR1. It is critical that the architects working within the estate comply with these council requirements in addition to the requirements stipulated below.

Should any conflict arise between any constraint specified in this manual and council requirements, the most constraining rule will apply.

3.1 Coverage:

Coverage refers to all building footprints, including main dwellings, garages, outbuildings, covered verandas and balconies. It, excludes roof overhangs, pergola's, decks and pools.

The maximum coverage allowed will be 50% of the erf size.

3.2 Building Lines - Disturbance footprints:

The building lines for each erf are indicated on the Site Development Plan 15-039-CS-1003 Figure 3D REV 3. These setbacks apply to all structures, permanent and temporary, including main dwellings, garages, outbuildings, covered verandahs, balconies as well as second dwellings, roof overhangs, boundary walls, fences, pergola's and pools.

3.3 Height Restrictions:

Building Heights

Maximum Height: No portion of the building will be more than 9m above the point of the natural surface of the ground, vertically below it. Chimneys are exempt from this restriction. The height of the chimney needs to be according to the local building specification and code.

Natural ground levels are considered as the levels documented on contour survey at the time of first transfer and indicated on the erf diagram. This will apply in perpetuity no matter what disturbance takes place subsequently.

General Heights

No vertical face or solid wall, be stone, plaster or glass, will be higher than 9m measured externally from the ground level below it.

The maximum height of a lean-to veranda element will be 3.5m above natural ground level.

The ground floor finished floor level may not rise higher than 1500mm above or below the natural ground level, without treating the plinth with natural stone cladding.

The minimum wall plate height for a single storey portion of a building will be 2.4m above finished floor level.

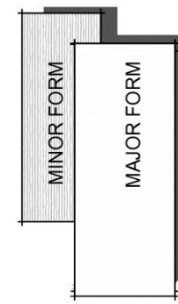
A double story is defined as any first floor above the ground floor, which has a floor to wall plate height greater than 1.8m.



4. Built Form

The handling of the proportions, scale and articulation of the building forms, is crucial to the success of built environment.

The aim of these guidelines is to ensure that forms are seen as a series of smaller, less imposing buildings, connected by smaller elements, rather than large over empowering forms that stand out and dominate the landscape. Long unarticulated building forms are to be avoided by incorporating varying setbacks of the building footprint. Similarly, building elements are to step down with the natural slope to ensure a minimal visual impact.



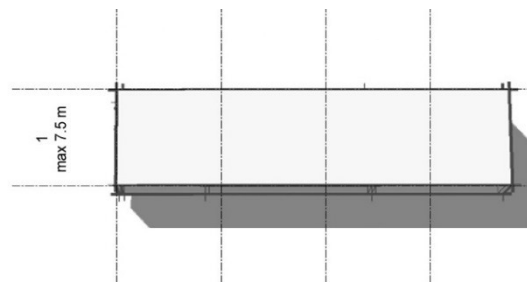
Plan forms

4.1 Plan Shape and Form:

Major Plan Forms refer to the main enclosed habitable areas and minor plan forms refer to the linking elements between major plan forms.

Major Plan Forms

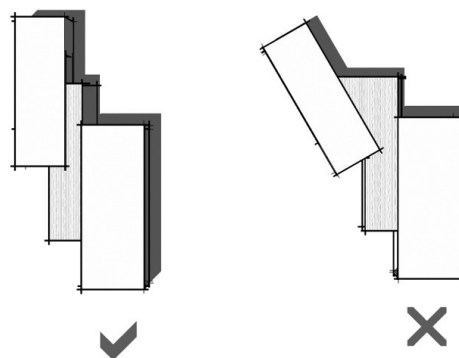
These must be limited to a maximum width of 7.5m and 4.0m minimum width.



Encouraged major form

It is intended that these built forms are simple and functional in nature, where decorative and ornate elements that do not fulfill a practical purpose are avoided.

Plan forms are to be composed of rectangular major plan forms which are connected to one another and articulated with minor plan elements. Rectangular plan forms may not be offset at an angle relative to one another.

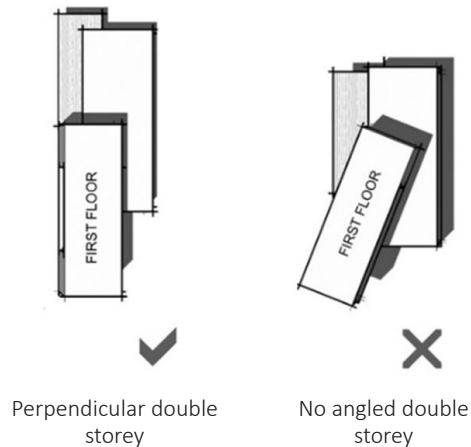


Perpendicular linear major forms

No angled major forms

Double Storey

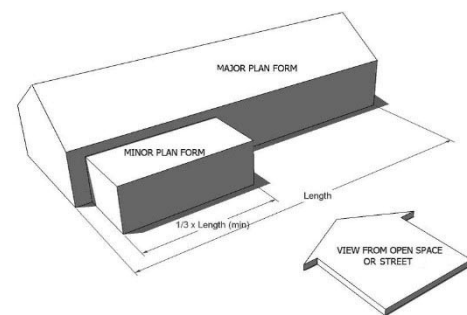
Double storey elements should conform to major form guidelines, and should be parallel to ground floor plan orientation (not angled). It is encouraged that the upper floor form overhangs the floor below to create layering and also shade any glazing effected by direct heat gains in summer.



Minor Plan Forms and Layering

It is essential that minor plan forms are used to “layer” the facade of the large major plan forms to prevent large overbearing, dominant facades.

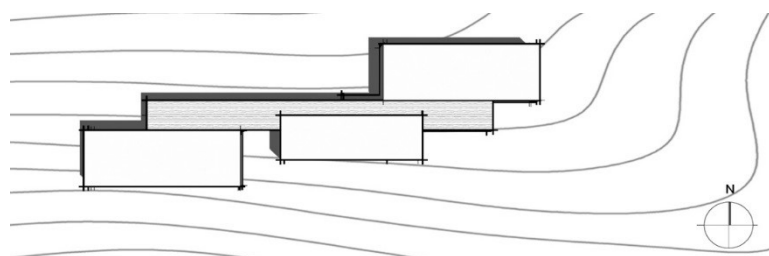
Minor plan forms include verandah's, walkways, decks, lean to's, concrete roofs, pergola's, shading devices, screening devices, privacy/courtyard walls and should be a minimum of $\frac{1}{3}$ the width of a major plan form and not be greater than the major plan form.



Minor plan forms to be $\frac{1}{3}$ the width of a major Plan form

Orientation in relation to contours and natural features

It is encouraged wherever possible that the linear form of the structure run in the direction of the contours on the site, provided this is not in conflict with the optimum orientation relative to the sun and prevailing weather.



Encouraged linear form on contours

To retain natural features such as trees, boulders, and to accommodate topography, plan forms must be separated where required and articulated through courtyards and connecting walkways and decks.

4.2 Roofs:

General

Roof lines should vary in height and setback to reduce the apparent scale of the building and minimize their overall visual impact on surrounding development.

Major plan forms should be roofed individually with concrete flat roofs or glass elements linking them. No lean-to roofs may be used as linking elements.

Roof Form

In order to enhance the simple aesthetic and straight lines envisioned within the estate, simple, mono-pitch, floating roof forms that sit lightly on plan forms are encouraged. These must be limited in pitch to avoid diagonal “eye catching” lines. Sufficient overhangs will enhance this ‘lightness’.

It is encouraged that Architects create contrast through flat concrete roofs on the minor forms, that connect these major forms and roofs in order to avoid massive roof structures. Roofs can be mono or dual pitched over the major form with minor roof elements connecting these. The slope for a mono pitch sheeted roof must be in the ranges of 5 to 20°. North aspect roof pitch must match the optimum range of angle for solar and PV panels so that panels and roof are parallel and do not clash visually with each other.

Dual pitch roofs are to be symmetrical, of the same angle on either side of the apex and should not have a pitch greater than 40°.

Lean-to/ Verandah Roofs

Lean-to roofs need to be connected to major forms.

Lean-to and verandah roofs are to have a pitch no greater than 10 degrees.

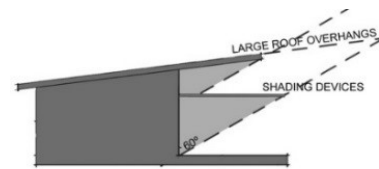
Concrete roofs

Flat concrete roofs should be used to connect major forms.

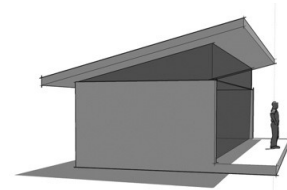
Linking concrete flat roofs may be used as roof decks, provided they do not overlook neighbouring residential properties. The screening thereof may be needed to ensure privacy.

Garage Roofs

Garage roofs need to match the architectural language of the main dwelling & are subject to the same architectural guidelines. Flat concrete roofs with parapet construction are encouraged over garages.



Sun facing facades- preferred depths



Mono pitched roof with clear storey windows are encouraged



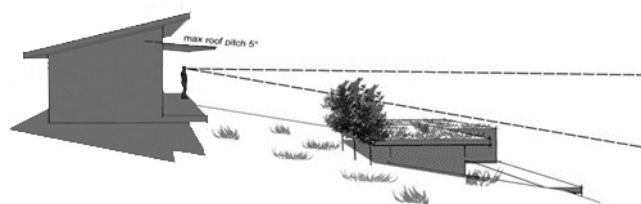
Clear storey gable ends are encouraged

Sloped Sites

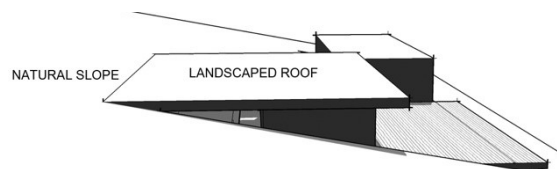
Flat concrete roofs on all areas visible from the sites behind are encouraged. All flat concrete roofs to be landscaped or must be covered in a 50mm layer of gravel in accordance with type & size listed in material section of this document (See annexure 2 - Material Selection).

On sloped sites it is also encouraged that portions of these “flat” roofs are cut into, and/ or “grow” from the landscape and that the earth/ natural landscape continues onto the roof.

In these areas it is essential that architects and contractor detail accordingly to prevent moisture penetration, and the appearance thereof on visible facades.



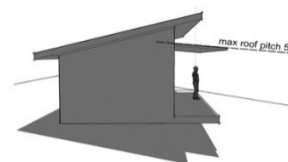
Flat concrete roofs improve view lines



Landscaped roofs are encouraged

Roofs over Minor Plan Forms

Roofs over minor plan forms must be flat concrete parapet type construction or roofed by single pitch, provided that pitch is 5 degrees or less.



Minor form roof pitch

4.3 Other Roof Elements:

Rafters and Truss

It is the design intent that the construction of the roof achieves a clean lined aesthetic throughout the estate. Exposed truss systems visible from the exterior need to be designed. Standard “off the shelf” truss systems using gang nailed junctions must not be visible or exposed.

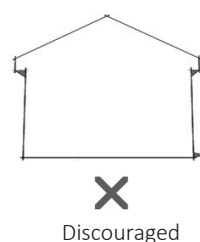
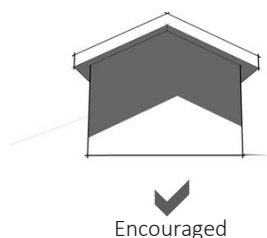


Standard gang nailed trusses must not be visible from the exterior

Overhangs and Eaves

It is critical that solar projection studies are implemented to calculate roof overhangs. Where overhangs cannot be achieved, alternative shading/ screening devices must be used. Architects will be required to submit this sun study with their application to the AOA.

Simple open eaves are encouraged. Wide eaves that need structural support may have struts from the supporting walls, provided that the thickness thereof is kept to a minimum. Fascias need to be painted or stained to match the roof colour. Slender eaves are encouraged.



Gutters

Gutters are optional, but where used, simple coated, rectangular, aluminum 'Watertight,' or similar, must be used. Gutters must match the roof colour.

Wherever possible gutters are to form part of a rainwater harvesting system incorporated into the design. Gutters and downpipes must appear to be part of the structure and be placed on the structural grid lines to facilitate this aesthetic.

PVC and fibre cement gutters are not permitted.

Down pipes must be of the same material and make as the gutter and must be mounted flush or recessed into the wall.

Uncaptured storm water run-off must be dealt with on each site and discharged under strict control onto an adjacent road or open space designed to receive this water.

Roofs Materials

Pitched Roof coverings may be:

Natural Slate Tiles - Samples of slate tile to be used to be approved by the committee prior to installation. If slate is used, no slate fascias are allowed.

Pre-coated, steel sheeting or Zinc Alume'- Standing seam, concealed fix profile. All metal roof sheets to be single lengths (no end joints allowed).

Skylights

Angle of skylights to match the pitch of the roof.

No pyramid or dome type skylights allowed.

Roof lights are to be set into the plane of the roof and must be of uniform size when used in the same roof plane.

Gables

No parapet walls to gable ends are allowed (no Cape Dutch style).

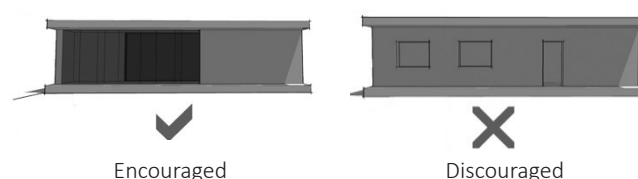
The overhang on the gable end must project a minimum of 600mm.

Parapets

It is encouraged that first floor decks or balconies are set back from the parapet edge to minimize the impact i.e. No curved or angled parapets.

4.4 Openings, Windows & Doors:

Windows and other glazed external surfaces have a major impact on the efficiency of the building envelope. It is encouraged that the glazing is integrated into the facade rather than a facade where the openings are created through punctured voids.



Irregular shaped windows are not permitted, except where they follow the roof line. E.g. Glazed gable or clear storey windows

Window frames must either be in timber or anodized / powder-coated aluminum and must be in terms of the prescribed colour range.

Window frame colour must be consistent throughout each house.

Large openings must be protected from sun and rain by large overhangs, sliding shutters and/or pergolas.

Where opaque glass is required, this should be plain frosted glass and not patterned.

No steel window frames or pre-cast concrete window systems may be used.

Reflective or colored glazing is not allowed.

No external burglar bars are permitted.

Where internal burglar bars are used and visible to the estate, they need to be rectangular in form without any ornate designs.

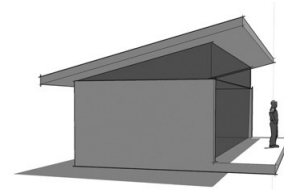
Shutter bars (Fixed steel louvre system), transparent louvres, and intruderprufe glazing are all encouraged.

No "Cottage Pane" style windows are permitted.

No arched openings are permitted.

No dormer windows allowed.

All glass sizes to conform to SABS 0400 –1990 Part N Glazing Regulations & SANS 10400.



Mono pitched roof with clear storey windows are encouraged

Doors

External Doors and door-frames must be in natural timber finish or aluminum and must be finished in terms of the prescribed colour range (Refer to Annexure 2 – Material Selection).

Door and window frame colour must be consistent throughout the exterior of each house.

Ornate carved doors are not allowed.

No external metal security gates/window gates are permitted.

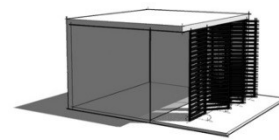
No irregular shaped, or round arched openings are permitted.

Garage door colour to match windows and doors of house.

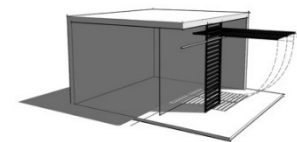
Ornate paneled garage doors are not allowed. Only vertical or horizontal slatted doors will be allowed.

Maximum width for single garage door is 2440mm and double door is 4480mm.

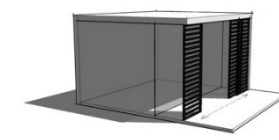
Only two single or one double garage door permitted on one plane. The additional door should be on a recessed facade.



Sliding shutters



Stack folding



Pivot type shutters

Shutters

'Kinetic' shading devices that allow maximum solar gain in winter and minimize this in summer are encouraged.

Screens are encouraged to span full opening heights as per windows/ glazing, and all eastern and western openings should have shading devices if insufficient overhangs occur. It is suggested that these lockable screens/ shutters serve as a form of security.

Canvas shading devices are allowed, provided they are finished in natural colours (to match exterior) and custom made to tie into the overall design. No pre-manufactured awnings, fake or cottage type shutters may be used.

Timber shutters must be in rectilinear form.



Kinetic shutters allow for shade in summer and solar gain in winter

Gates & Screens

Gates and screens need to be finished in Hardwood (Natural finish) or aluminium to match the windows and doors. The design must have vertical or horizontal patterns only.

Wash line areas to be screened from external view.

Screen wall elements not exceeding 2.2 m in height may be used for screening of pools, patio's, etc. but must be designed as part of the garden or landscaping design and must be approved as part of the overall planning submission.

Gates and screens must be finished in slatted timber (either natural colour hardwood or natural colour pressure treated pine or powder coated/anodized aluminium) to match the colour of the window frames.

No decorative wrought iron/cast aluminum gates or screens are allowed.

Brick and plaster and/or stone-clad wall elements not exceeding 1,8m in height may be used for screening but must be designed as part of the garden and landscaping design and must be approved as part of the overall planning submission.

Masonry screen walls should be the same finish and colour as the house.



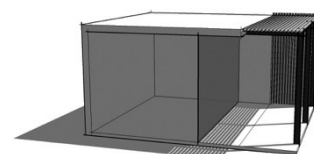
Gate and screen preferred aesthetic

4.5 Other Elements:

Pergolas & Verandahs

Pergola's and verandah's are to be used as shading devices that layer or connect major form elements.

The use of pergolas and verandahs is essential in softening the edges of the buildings facing the street and public open space.



Pergolas & Verandahs as shading devices

Verandahs and pergolas are to be treated as minor forms and used to soften and layer major forms.

Pergolas may be constructed in natural hardwood or powder coated aluminium or galvanized and painted steel.

Timber to be finished as natural or clear.

No pre-cast, cast iron or circular columns are permitted.

No ornate “broekie lace” detail is permitted.

No brightly coloured or striped canvas shading is permitted.

Balconies

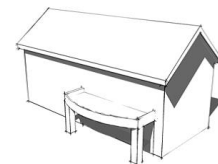
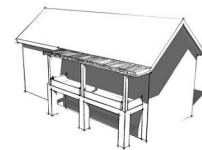
Balconies must be positioned to face the street or open space, and not address an adjacent residential site.

Balcony roofs, if applicable, must be similar in character to the main house roof or follow the requirements for verandahs and pergolas in paragraph chapter 4, under point 4.5 “*Other elements - Pergolas and Verandahs.*”

Balconies may be treated as roof terraces or supported in a similar fashion specified for verandahs and pergolas. Balconies must be rectilinear in plan form.



Pergolas & Verandas preferred aesthetic



Balconies permitted

Balustrades

Balustrades need to appear lightweight and be visually permeable and comply with screen aesthetic in chapter 4, under point 4.4 “*Openings, windows & doors - Gates & screens.*”

Balcony and verandah balustrades must be in keeping with the architecture of the house, and must be in natural hardwood finish, galvanized steel painted or powder coated, or powder coated aluminum - all to comply with approved colours.

Only regular linear type patterns are allowed.

No ornate or over decorative railings styles will be permitted.

Awnings

Shade devices should form an integral part of the building's architecture and should become an important architectural feature.

Sun control to openings shall be by means of pergolas, wide roof overhangs, shutters, planting or specified horizontal solar shading devices.

No pre-manufactured clip-on aluminum or canvas awning systems may be used over windows or doors.

Specifically designed horizontal solar shading comprising of hardwood louvers or aluminium/steel construction is encouraged but will be subject to design review committee. Colours to be natural or stained timber or if in aluminium or steel need to match the window colours.



Retaining Walls

Retaining walls should be integrated into the design of the building.

Retaining walls should be either local natural stone or gabion construction (filled with local stone).

Gabion retaining walls must be less than 1.5 m in height. To achieve this on steeper sites, terracing will be required. For every 1.5m of height, retaining must to step back by 1m horizontally.

Constructed retaining walls higher than 1.5m in height need to be clad or constructed in natural stone.

Constructed retaining walls visible from outside the erf may not be more than 2.5m in height.

Any wall higher than 1.5m high must have a planted landscaping bed along its full length.

If a retaining wall is located within a private courtyard of a home and not visible from the street or adjoining properties, the allowable finish and height of the wall will be considered on individual merit by the design review committee.

Garages

Only one vehicle entrance driveway will be permitted for single residential sites, as per master plan.

Areas with solid surface paving should be kept to a minimum.

Driveway surface materials and finish must be brick paving or exposed aggregate concrete finish.

Parking for a minimum of two motor vehicles on each erf is required (Excluding vehicles inside the garages).

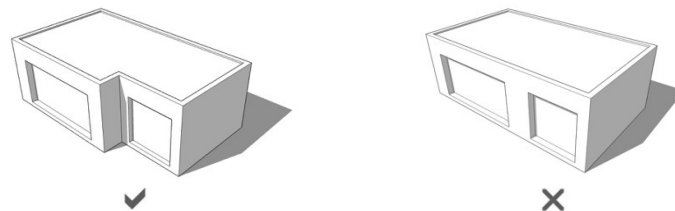
Garage doors addressed in chapter 4, under point 4.4 “*Openings, windows & doors - Doors.*”

Design treatment of garages should match the main structure of the house in style, elevation and material use.

It is encouraged that garages be treated as a separate building mass on the erf linked to the main house by a wall, pergola or covered walkway.

Prefabricated garage units are not permitted.

Should the garage doors be orientated towards the street, a screening pergola needs to be added above the door elements.



No facade may have three garages doors (including a double doors and one single) in a row without stepping back the facade for one of the garages by at least 700mm.

Carports

Carports are not permitted.

Outbuildings & Outdoor Living

The design and treatment of outbuildings should match the main structure of the house in style, elevation and material use. Staff accommodation should open into an enclosed/gated courtyard or screened area. Thatch ‘Lapa’ will not be permitted.

Yards

Kitchen yards must be screened from roads, open spaces and neighbours. Kitchen yards must have access to the street and accommodate garbage bins, wash lines and gas containers etc. Walls should be similar to the basic materials and colours of the building and be 1.8m in height.

Plant and Equipment

Pool pumps and filtration systems may not be visible from surrounding roads and neighbours. Pumps and motors must be in a professionally designed sound insulated enclosure approved by the AOA design review committee. The position must be indicated on drawing submission and approved by AOA and cannot be close to neighbours bedrooms.

All plumbing and any other pipe work must be concealed from view.

Air Conditioning and Heat Pump condensers must be screened from public view. Window mounted units are not permitted.

Solar heating and PV panels should be incorporated into the building and appear to form part of the basic structure. Panels will be allowed on concrete flat roofs, however geysers must be concealed and out of view. No Solar Geyser combos are allowed.

TV aerials, satellite dishes and other such items must form part of the basic structure and are to be positioned below the eaves.

Exterior lighting

Only low level, non-intrusive lighting allowed.

The intention is that all exterior lighting on each erf will be subdued and indirect allowing only critical areas to be illuminated in a subtle fashion without the actual source being exposed.

The light source to all external lighting (excepting under covered patio or gazebo roofs), wall mounted or otherwise, may not be more than 1m above natural ground level.

Non-intrusive lighting on porches can be higher, providing that it faces inwards/ toward the dwelling and the source is not visible.

No external flood lighting is allowed.

Swimming pools

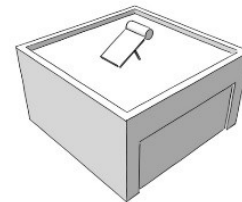
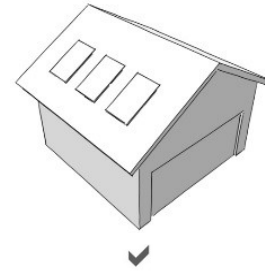
Pools must be rectangular in form and set at the same angle as the rest of the building.

Retaining walls for pools must be integrated with the aesthetic of the building and are subject to the same design code regarding material and form as main structure of the building. Safety fences to comply with the balustrade aesthetic in this design - See chapter 4, under point 4.4 *"Openings windows & doors."*

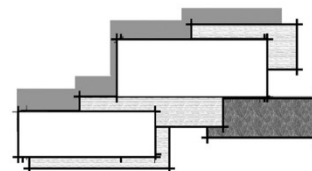
Safety fences must be black or charcoal in colour

Portable pools are not permitted.

Colour of pools to be either white, light blue or charcoal.



Positioning & angles of solar heating and PV panels permitted



Rectangular pool forms preferred

Signage & House Names

Size and Text – Individual House numbers or letters to be no larger than 20cm high each and must use Calibri Font style.

Material – House names and numbers to be constructed from Powder Coated Aluminium in graphite or charcoal colour.

Post Boxes – no post boxes (freestanding or integrated) are allowed on individual homes. Communal post boxes are located at the gatehouse.

Perimeter Walls and Screens

As a general rule boundary walls are discouraged, but only used where necessary for screening or security purposes (E.g. to contain pets)

The visual impact of boundary walls should be of a minimum and the articulation thereof is recommended.

It is encouraged to use landscaping and/ or the structure of the buildings to create privacy and enclosure.

Boundary walls to be a maximum of 1.5m high, unless part of a screen wall element and must connect with the main structure.

It is encouraged that the 'dwelling' forms the bulk of the portion of the boundary walls that face onto streets or open public space. On boundaries facing the street or public open space, the total length of the boundary wall in relation to that boundary length needs to be less than 50%.

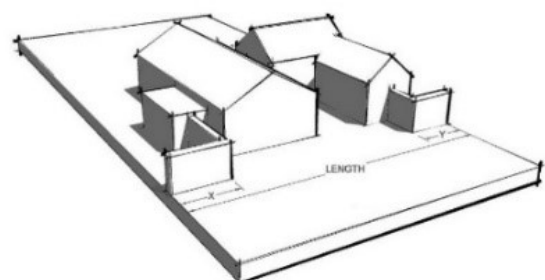
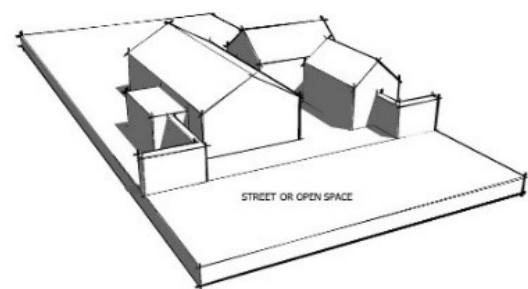
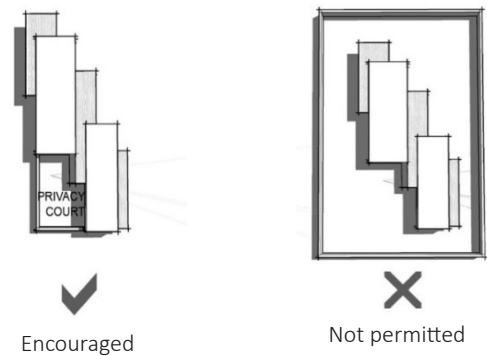
Fencing on the street boundary is not allowed. If required, it is encouraged to use berm landscaping and/or the structure of the buildings to create privacy and enclosure.

Boundary walls to be max 1500mm high unless part of a screen wall element. It is encouraged that the "dwelling" forms the bulk of portion of the boundary walls that face onto streets, and public open public spaces.

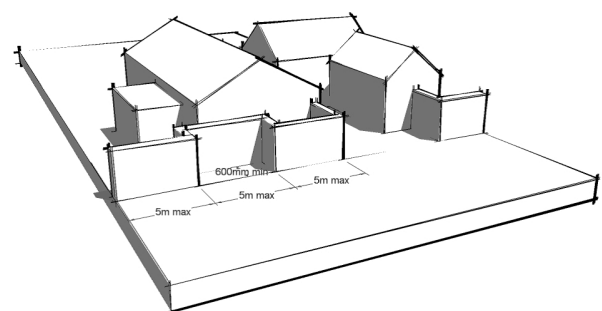
On boundaries facing the street or public open space, the total length of boundary wall in relation to that boundary "length" needs to be less than 50%.

The length of wall directly on the street, and open spaces boundary is limited to 5m, thereafter a setback of 600mm is required. Each setback portion of the wall is limited to a length of 5m. It is encouraged that vegetation/plants be grown in the setbacks.

Site boundary walls, separating erven, may not run within servitudes.



$X + Y < \text{or } 50\% \text{ Length}$



Decks, Walkways & Terraces

Decks, walkways and terraces must be shaped to retain natural vegetation.

It is encouraged that natural vegetation features puncture decks, where interference occurs.

Decks must be at the same angle as the house.

If terraces are used they need to follow the same guidelines as retaining structures see chapter 4, under point 4.5 - *"Other elements - Perimeter walls and screens."*

Composites or similar products with longer life spans are an acceptable alternative provided a sample is provided to the AOA for approval, prior to installation.



Retention of natural vegetation is encouraged



Encouraged interference aesthetic



Encouraged angle aesthetic

5. Exterior Wall Finishes

5.1 Specific wall materials:

South African natural stone* is encouraged - any reference to stone work, clad or otherwise in this document, refers to natural stone. (Refer to Annexure 2 - Material Selection - for the allowable stone within the estate)

No imitation or man made stone cladding products are allowed.

Stone applications have to be dry packed or dressed and not jointed.

Linear forms are allowed when cutting stone, but stone should have a natural appearance and shape and not be machined. Approved stonework will be used on the gatehouse. It is critical that the stonework on the homes matches this in both material and construction technique and aesthetic.

Chimneys to be clad in local natural stone.

Plastered wall – only vertical brush texture, indiscriminate scratch texture or smooth plaster is allowed.

‘Marmoran’ products or equivalent are encouraged.

Timber ship-lap boarding is not allowed.

No face brick allowed.

No quoining will be allowed.

No metal sheeting as a wall material is allowed.

No ornate, moulded plaster work is allowed.

Wall colours

Wall colours should be muted earth tone colours to allow the buildings to blend into the natural environment. To this end no white or “un-natural” colours will be permitted that would make the building starkly contrast with the natural colours of the environment.

All external walls on an erf may only be painted one colour i.e. no contrasting colour variations between walls.

Wall colours should be muted earth tone colours to allow the buildings to blend into the natural environment. To this end no white or un-natural colours will be permitted that would make the structures starkly contrast with the natural colours of the environment.

No form of “paint technique” or other form of decorative painting will be allowed externally. (Refer to Annexure 2 - Material selection - Wall colours)



6. Passive Design

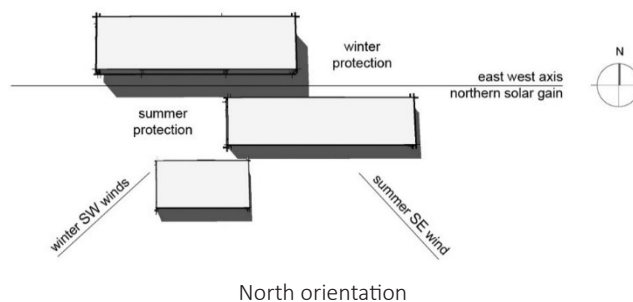
It is essential that architects factor in the Western Cape climate when designing homes within Applegarth Estate. The vision for the estate encompasses respect for the environment generally and particularly in the realm of energy and water conservation. The following is included in this manual for consideration and encouragement to owners and their professional teams to subscribe this vision.

6.1 Passive Solar Principles

Maximizing north facing walls & glazing, especially in living areas and minimizing all east and west glazing unless backed by suitable passive design philosophy.

Orientation – preferably linearly on an east west axis if the contours allow, with north facing living areas. Specific reference needs to be made attention to passive solar heating and passive solar cooling principles. Attention to North facing walls and the external shading /screening thereof so as to shield from the direct sun in summer but not during winter.

Design of east & west facades to deal with low sun angles and heat gain in summer.



6.2 Thermal mass

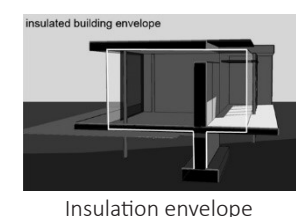
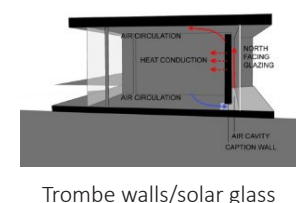
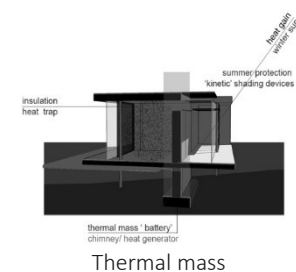
Thermal Mass is the ability of a material to absorb, store and release energy. The regulation of heat fluctuations together with other passive strategies form an integral part as to achieve thermal comfort throughout the year.

In the western cape climate, high thermal mass solutions are recommended but low thermal mass can work if used in conjunction with other systems. High Thermal Mass construction combined with sound passive solar design is an ideal solution.

Location of thermal mass relative to the insulation envelope and the ventilation thereof to draw out the energy

Choice of type of thermal mass and its properties (density, conductivity, reflectivity)

Thermal mass acting as a 'thermal battery'.



6.3 Insulation

High insulation levels, especially to thermal mass is critical. The use of bulk insulation also retains heat during winter.

Location of both bulk and reflective insulation (floors, walls, roof, ceiling etc)

The embodied energy of insulation products used

The R-Value of insulation used

North facing glazing to be double glazed wherever possible.

Insulate windows/doors/glazing through fabric, double glazing or other solutions.

Absorbent/reflective quality of glass used

Emissivity of glass used

Thermal properties of frames used

Treatment of windows to prevent heat transfer (curtains, double glazing etc.)

Air tightness of windows and doors

6.4 Cross Ventilation

Use cross ventilation & passive cooling in summer and yet still maintain the ability to protect from prevailing strong or cold winds.

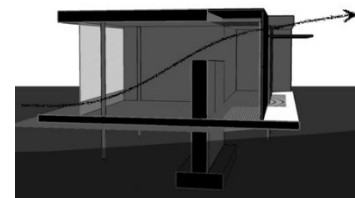
Protection from the prevailing NW winter wind and the SE summer wind

Cross ventilation

Optimum opening styles

Draft sealing

Landscaping integration strategy.



Cross ventilation

Encourage convective ventilation and heat circulation

Both cool & warm air flows within the envelope

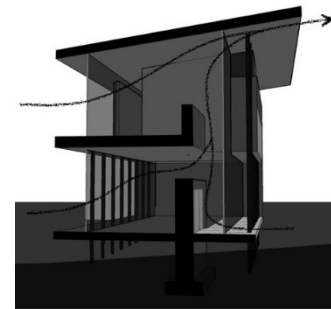
Use optimum shading devices to limit unwanted heat gain

Shading of north, east, west and south facades

Type of shadings device

Flexibility of shading device

Natural (landscaped) shading



Convection



7. Sustainable Principles

It is important that the home owners/ architects are aware of the initial capital costs for implementation of these principles, as well as the long term pay back periods (environmentally, financially) involved by installing sustainable solutions as these. Homeowners are encouraged to connect and utilize existing infrastructure wherever possible.

7.1 Energy

Each home owner and their architects are encouraged to include their own alternative energy sources. The aim is to limit the overall energy consumption of the estate.

7.2 Photovoltaic cells

It is advised that alternative power supplies are used to accommodate the needs of each dwelling, these could be grid connected or stand-alone systems, and must be to specialist requirements.

These need to relate to the overall formal aesthetic and be incorporated in the design and approved by the design committee. The optimum angles for PV modules are required. It is recommended that these sit flush in the solar north facing roof plane, and if not of similar angle to the roof, these must be located on the lower part of the roof in a linear arrangement. When used vertically it should be incorporated in the wall/ screens plane. Batteries, inverters and storage devices must be concealed.

7.3 Passive Solar Water

It is compulsory for each residence to have sustainable water heating systems. Placement of the storage tanks (solar geyser) should be concealed as to comply with the visual aesthetic of the estate. The solar energy collection surface/ panels must be flush with the roof plane and correspond to the structural grid. These need to be designed and installed according to specialist details.

Energy saving electrical alternatives:

7.4 Lighting

Using an appropriate indoor and outdoor lighting design

Use task lighting instead of ambient lighting

Lighting controls (e.g. dimming switches, time sensors) allow you to regulate the light level and reduce electricity consumption to some extent

Fluorescent lighting is more economical than incandescent fixtures. Compact Fluorescent Lights (CFLs) use 50 to 80 percent less energy and last 5 to 10 times longer than incandescent.

Try not to install multiple lights (lamps or lighting fixtures) on a single switch. Above all, turn lights off whenever possible because, they use electricity while they burn.

Outdoor solar lighting and low voltage lighting is encouraged for landscape lighting.

7.5 Electrical appliances

Use ceiling fans instead of air conditioning, and if air conditioning is needed, use high efficiency models.

Heat and cool with heat pumps

Use appliances which are lower on energy consumption

Use well insulated solar hot water cylinders instead of geysers.

7.6 Water

Each home owner and their architects are encouraged to include their own alternative water sources. The aim is to limit the overall water consumption of the estate.

7.7 Rainwater Harvesting and Storage

A strategy to harvest and re-use rain water should accompany each design according to the needs for each house. Storage tanks for collecting rainwater harvested using guttering may be either above or below the ground. When placed above ground, these tanks (form and material thereof) need to form part of the aesthetic or be screened, and approved by the Design Committee.

7.8 Bore hole (ground) water

Each home owner and their architects are encouraged to include their own alternative water sources. The aim is to limit the overall water consumption of the estate. Homeowners are encouraged to connect and utilize existing infrastructure wherever available for flushing, washing and irrigation..

7.9 Wastewater & Waste

Self-sustaining systems for re-use of grey water are encouraged.

7.10 Water saving appliances

For a rainwater dependent household, water saving appliances can pay for themselves in one or two years because they reduce the size and the capital cost of the appliances (i.e. less water needs to be stored). These include:

Low flush toilets, can lower indoor water use by as much as 15% and pay for themselves in a year by reducing storage requirements.

Other water-saving appliances include – flow restricting and aerated faucets and efficient shower heads,
Pool covers

Low water use dishwashers, and washing machines, on-demand hot water units are encouraged.

