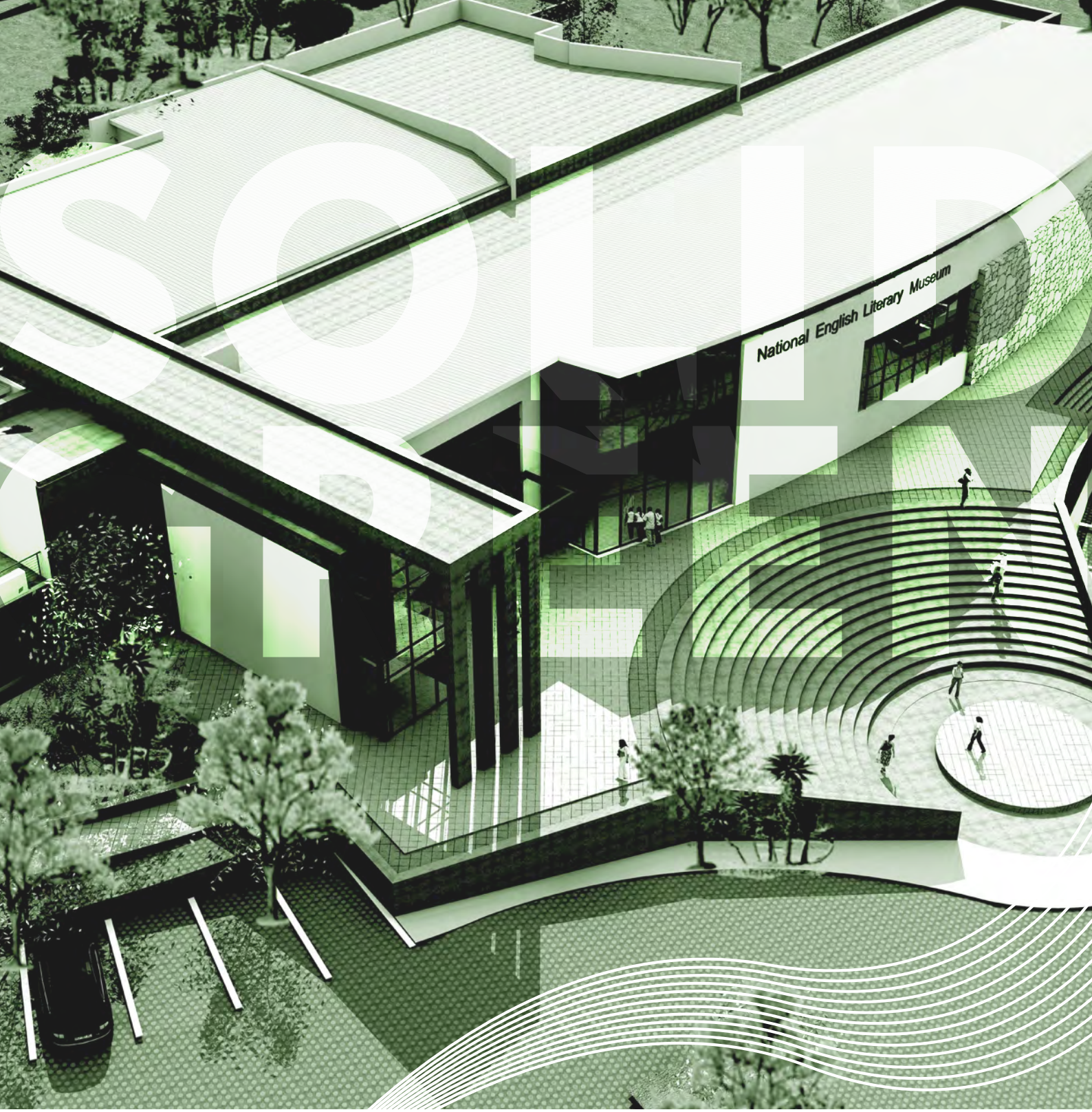


CONSULTANCY FOR THE
SUSTAINABLE BUILT ENVIRONMENT

solidGREEN

INTRODUCING
SOLID GREEN

SOLID GREEN CONSULTING is a young and energetic company enthusiastic about advancing sustainability in the built environment. With a wealth of experience at our disposal, we offer property developers and building professionals a sophisticated range of consulting services to assist in achieving their green building goals.

Through green building consulting, Green Star consulting and building simulation, we drive and guide design teams to create comfortable, healthy buildings that are highly efficient in their energy, water and resource utilisation. The result is a built environment which is more sustainable and better for all.

The Solid Green team is made up of experienced professionals, all well-known figures in the industry. Marloes Reinink has an architectural background and made her mark handling the Green Star certification of the first Office, Retail and MUR buildings in South Africa. Warren Gray and Chilufya Lombe are both mechanical engineers who employ their extensive experience in computer simulation tools to optimise indoor environmental quality and minimise energy consumption in building designs.

GREEN BUILDING COUNCIL SA
MEMBER ORGANISATION

ACHIEVEMENTS 2011-2014

Between 2011 and 2014, Solid Green has obtained an impressive **10 Green Star certifications** for 9 different projects - see our Green Star overview covering the relevant projects.

We are currently working on **14 projects** that are registered for submission for Green Star certification, and are involved with three Interior Pilot projects and three Existing Buildings Pilot projects.

Solid Green received a **Green Star SA Leadership Award** for the Best Quality Submission (2012/2013), for the National English Literacy Museum, which received a 5-star Green Star SA PEB Pilot.

Marloes Reinink received a Green Star SA Leadership Award for Established Green Star (2012/2013), recognising her contribution to development, education and implementation of the Green Star tools in South Africa.

Warren Gray serves on the SANS 10400 Part XA committee to help with the development of the energy-efficiency standard and modelling protocol for the rational design route.

Solid Green has recently established **Solid Insight.** Solid Insight is a cutting-edge web application that promotes the awareness of energy use in buildings by combining the key areas of awareness, education and accessibility.
Check out **www.solidinsight.co.za**



SOLID GREEN AND THE **GREEN BUILDING COUNCIL OF SOUTH AFRICA** (GBCSA)

Solid Green is proud to be a member of the GBCSA. We have two people on the **GBCSA faculty,** who provide training to enhance the understanding of Green Star in the building industry.

A contingent of five from Solid Green is also on the **GBCSA assessment panel,** carrying out submission assessments.

Additionally, Solid Green has another two representatives serving on the **GBCSA Assessment Committee,** whose responsibility it is to ensure that the certification assessments and assessment processes remain of the highest quality.

We've dedicated more assistance by sponsoring the **live-metering equipment** for the GBCSA office, enabling the GBCSA staff to track and monitor their energy and water consumption. Solid Green also sponsors the live-metering equipment to the **My Green Home project** initiated by the GBCSA.

Our company has recently joined forces with Cycology and the GBCSA in the **Decongest Sandton Initiative,** an incredibly exciting and fun project progressing green urban mobility in Sandton. The initiative has deservedly received a great deal of media attention.







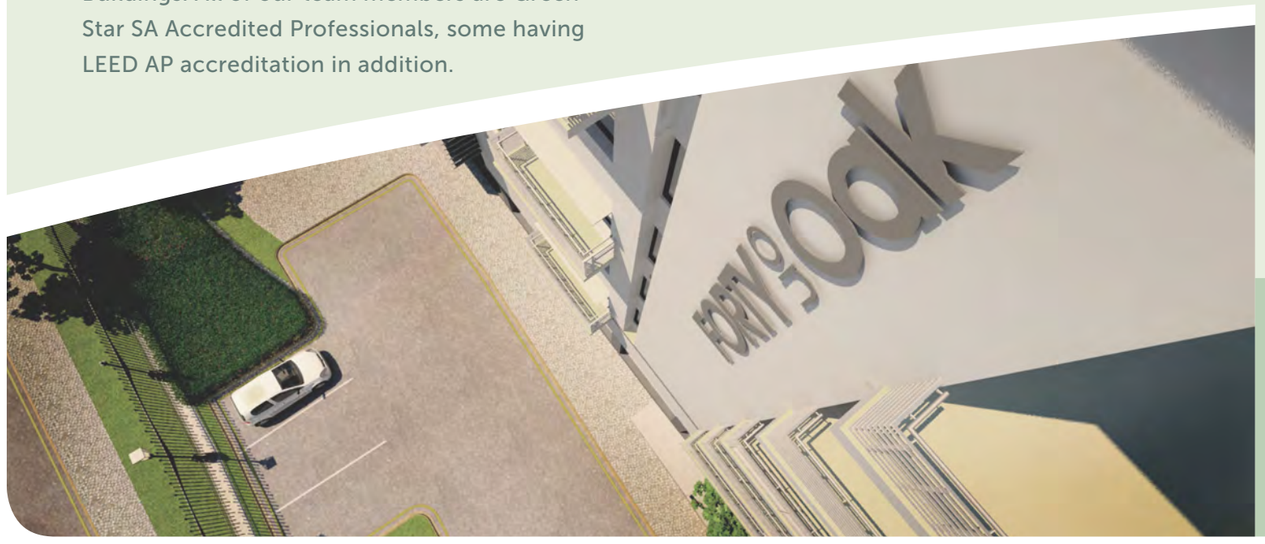
SOLID GREEN SERVICES

★ GREEN BUILDING CERTIFICATION

Solid Green is specialised and experienced in both Green Star and LEED green building certification. We offer certification for Offices, Multi-Unit Residential, Retail Centres, Existing Buildings, Interiors, and Public & Education Buildings. All of our team members are Green Star SA Accredited Professionals, some having LEED AP accreditation in addition.

★ BUILDING SIMULATION AND MODELLING

Through using energy, natural-light and thermal-comfort simulation, Solid Green ensures that the passive and active building design is optimised. Solid Green also provides accreditation modelling for Green Star and LEED projects.



★ GREEN LEASING

Green leases align the financial and energy incentives of building owners and tenants so they can work together to save money, conserve resources and ensure the efficient operation of buildings. Solid Green assists developers and tenants in achieving the shared benefit of sustainable building features.

★ GREENING EXISTING BUILDINGS

Existing buildings represent the majority of the building stock, and should be at the heart of the conversation and action plans to reduce greenhouse gases and create healthier workspaces. Solid Green offers sustainability audits and strategy plans to improve the sustainability of existing buildings.

★ SANS 10400 PART XA ENERGY REGULATION

The software that Solid Green uses for modelling is approved for the "rational design path to compliance" under the new SANS energy regulations for buildings. This process has now been automated online using our www.solidxa.co.za website.

SOLIDXA

★ ONLINE BUILDING USER'S GUIDE AND LIVE METERING

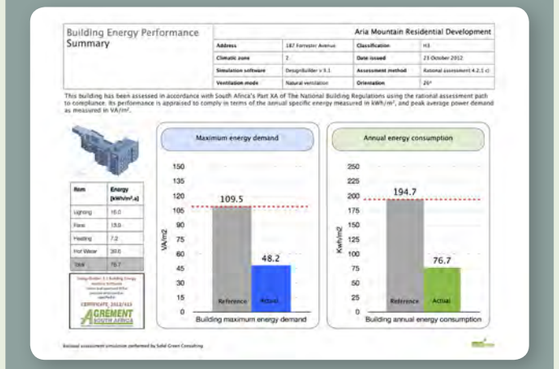
Building user's guides are made available to tenants and the public via a bespoke website. Live energy and water consumption of the building is also presented on the web. Have a look at **www.solidinsight.co.za** for more information.

SolidInsight

SERVICES

MODELLING SERVICES

SANS 10400 PART XA RATIONAL DESIGN MODELLING

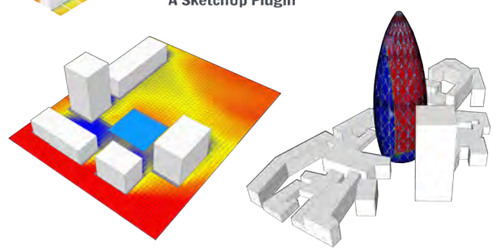


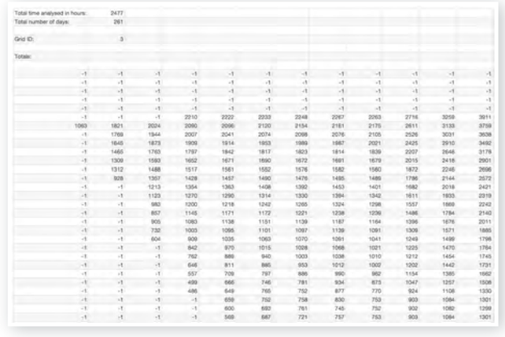
Perform the rational assessment for any building type that is required to comply with the new energy regulations.

Our software is approved as certified thermal calculation software by Agrément South Africa's Energy Software Protocols. **www.solidxa.co.za**

SOFTWARE

SunHours
A SketchUp Plugin

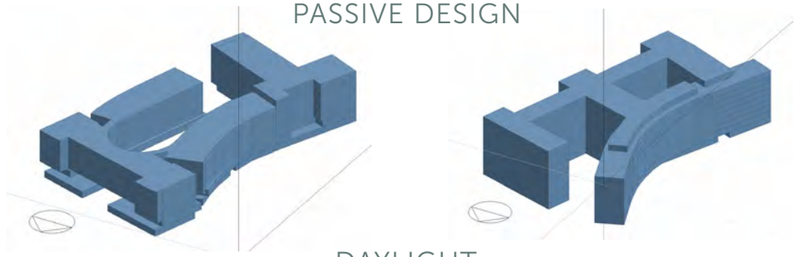




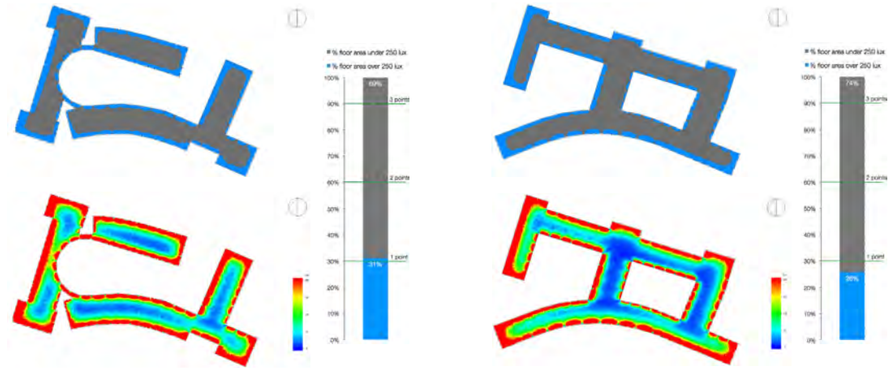
PERFORMANCE MODELLING AND SIMULATION

EARLY STAGE CONCEPT EVALUATION

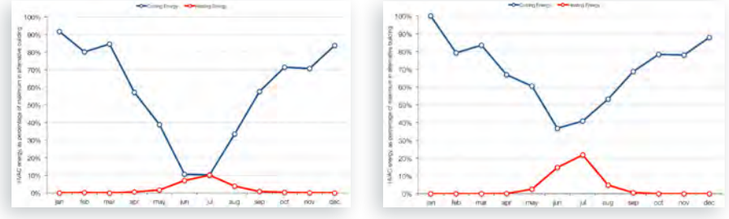
PASSIVE DESIGN



DAYLIGHT



ENERGY



MENLYN MAINE

Menlyn Maine aims to become the first green city in Africa. Working with three green ratings systems, sustainable designs will ensure a world-class development, now and into the future.



BUILDINGS - All buildings at the Menlyn Maine precinct are required to achieve a minimum 4-star Green Star certification. The first two buildings built in the precinct have received certification. Solid Green is working on the next series of office buildings to be designed and built in the near future. These buildings include:

- **BUILDING M:** MERCURY BUILDING - Sectional Title Office Building
- **BUILDING O:** ORION BUILDING - Shell & Core Office Building
- **BUILDING P:** PEGASUS BUILDING- Shell & Core Office Building

PRECINCT - Menlyn Maine is pursuing LEED Neighbourhood Development (LEED - ND) certification from the USGBC. This certification ensures that the development is not just a collection of green-certified buildings, but a truly green city. The tool rates initiatives like walkability, connectivity, mixed-use land use, public spaces, local food production, shaded streets, wetland and water-body conservation, bicycle network and many others. Solid Green is in collaboration with Ecocentric on the project.

OPERATIONAL - Menlyn Maine is one of only 17 projects worldwide to be part of the Clinton Climate Initiative (CCI) Climate+ Programme. This programme was created to address the challenges of rapid urbanisation and climate change. The goal of the programme is to achieve a development that is carbon negative (climate positive) in its operation by reducing its emissions and offsetting emissions in the surrounding community. This programme targets emissions from waste, energy and transportation.

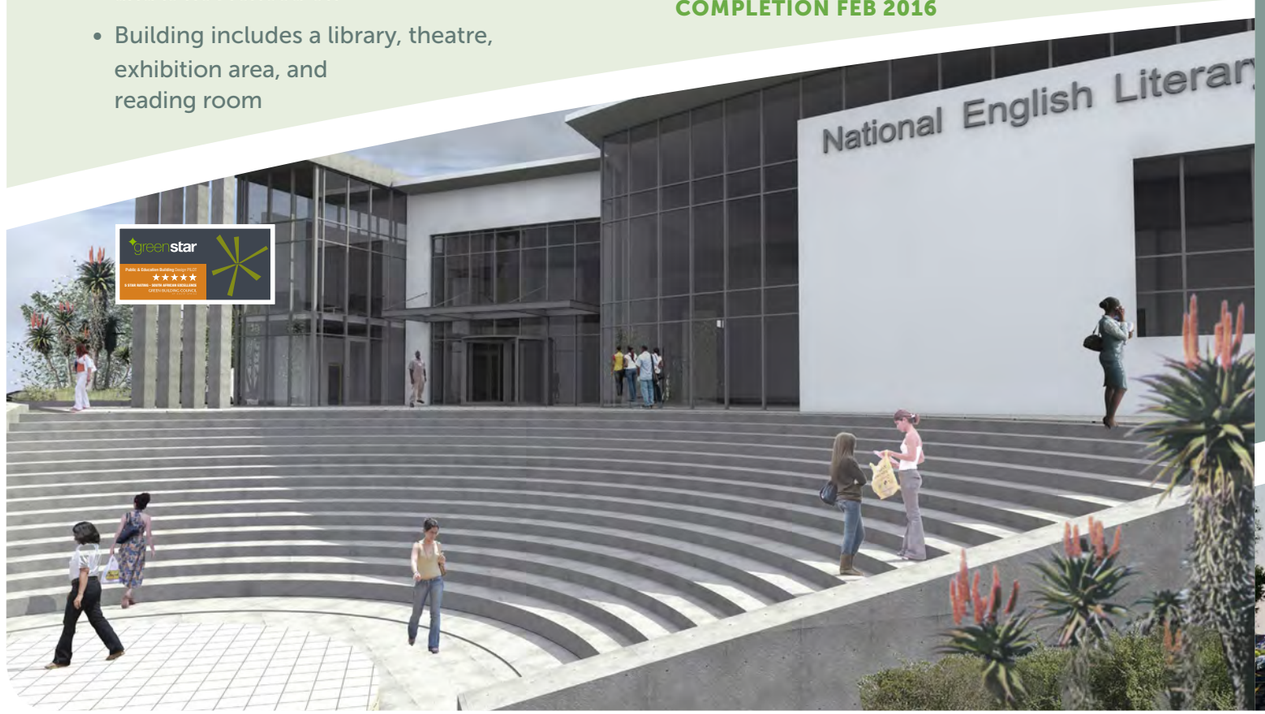


NATIONAL ENGLISH LITERATURE MUSEUM

- PILOT project for the Green Star SA Public and Education Building rating
- Achieved 5-star Green Star PEB PILOT Rating
- Green Roof over the archives
- 100% Xeriscape garden - no irrigation system installed
- Site is open to the public 24-7 and is not fenced off
- Building includes a library, theatre, exhibition area, and reading room
- Outdoor amphitheatre for the community
- Stormwater collected onsite in the water features and reused for toilet flushing
- Live water & energy consumption data displayed on a screen in lobby area

FIRST 5-STAR PUBLIC & EDUCATION BUILDING

REGISTERED FOR AS BUILT, ESTIMATED COMPLETION FEB 2016



MULTICHOICE CITY

The development situated on the corner of Republic Road and Bram Fisher Drive will be new green office space for MultiChoice employees. The 35'000m² building already achieved a 5-Star Design certification in December 2013 which demonstrates 'South African Excellence', and is currently registered for an As Built certification.

SUSTAINABILITY FEATURES

- Grey water collection from the gym and re-use for toilet/urinal flushing
- Efficient light fittings and motion sensors
- The whole professional team and contractor has Green Star SA Accredited Professional status
- Ice-storage to reduce the energy peak demand
- Drought resistant plants minimising the need for irrigation
- CO sensors in the basement minimise ventilation fan energy





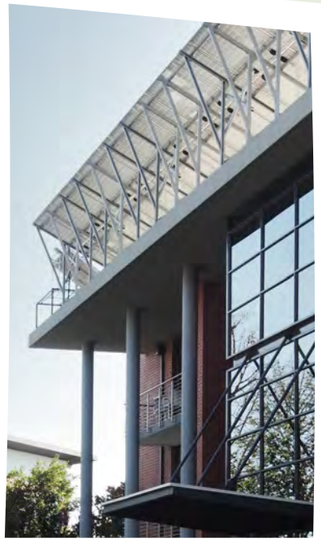
UPPER GRAYSTON

Upper Grayston is an office park development situated in the heart of Sandton, Johannesburg. Two buildings, Block E and F, are green buildings. Block E received a 4-star Design and 5-star As Built Green Star SA Office v1 certification. Block F is targeting a 6-star As Built certification.

GREEN BUILDING FEATURES

- Rainwater harvesting and re-use in the building (toilet and urinal flushing)
- Solar Hot Water for hot water use in the building
- Live energy and water consumption metering with a display in the lobby
- Mixed-mode ventilation system (combination of natural ventilation and mechanical ventilation) through a green-light/red-light system
- Natural daylight enhanced through light-shelves
- Block F has PV panels on the roof that generate electricity for the building







BMW HEADQUARTERS

One of Johannesburg's most iconic buildings is the BMW HeadQuarters in Midrand, along the M1 highway. The building has undergone a major refurbishment which was finalised in April 2014. This project received a 4-star Design certification and is targeting a 5-star As Built certification.

Photo: Michael Schmucker, Studio 88
t: 082 564 3558, e: info@studio88.co.za



SUSTAINABILITY FEATURES OF THE BUILDING:

- Lighting system includes 100% LED lighting and motion sensors
- Photovoltaic system generating electricity
- Low flow toilet fixtures and infra-red brassware
- Double glazing in the exterior facade
- Energy and water metering, linked to a live display system
- Charging points for electric cars
- Cycling infrastructure
- Internal courtyard louvres actuated by means of solar tracking

MELROSE ARCH JOHANNESBURG

The mixed-use development Melrose Arch lies in the heart of Johannesburg. The development has been designed with New Urbanism principles in mind, in which different uses, residential, retail and commercial offices, come together to make the precinct a lively neighbourhood.

The developers and owners of Melrose Arch have made a commitment to greening the precinct and are constructing all new buildings to a minimum 4-star Green Star rating. They are also involved with a pilot project using the new Green Star Existing Building Performance tool.

40 ON OAK

Nestled in the heart of the vibrant and prestigious Melrose Arch Precinct is Forty on Oak, a multi-unit residential development. The building houses 59 luxury apartments, ranging from one bedroom apartments to penthouses.

- First residential project to achieve Green Star certification
- Project integrated into mixed-use Melrose Arch precinct
- Gas Hot Water supply
- Community garden and shared pool with the hotel
- Naturally ventilated apartments
- Bicycle facilities

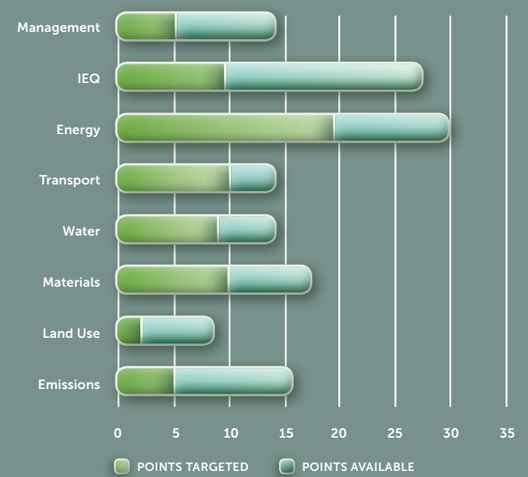


39 MELROSE BOULEVARD

The beautifully designed 39 Melrose Boulevard is home to the multi-disciplinary engineering firm Worley Parsons. This seven storey building achieved a 4-star Green Star SA Office v1 Design certification in December 2013, and is registered for As Built certification.

- Building is linked to the district cooling centre that supplies the building with cold water for air conditioning
- Rainwater is harvested, collected and re-used for toilet flushing and irrigation
- Green wall in reception area cools & cleans the air
- The building is connected to the Eco-Centre from which all waste is separated and recycled
- Access to public transport is excellent
- Energy and water meters are in place and linked to the BMS to meter and manage consumption

50 POINTS ACHIEVED
4-STAR (OFFICE V1) DESIGN RATING





ALICE LANE - SANDTON

Located in the heart of Sandton, with easy access to the Gautrain station, malls, hotels and offices, rises the striking Alice Lane development. Three prominent buildings surround a central street-scaped piazza lined with trees and featuring top retail outlets and restaurants. The precinct is developed by Abland and Standard Bank, both of whom are committed to green buildings and plan to ensure that all construction will adhere to the Green Star principles.

PHASE I: MULTI-TENANTED

Alice Lane is an exciting new office development which received 4-star Green Star SA Office v1 Design certification in February 2013. The building houses a flagship Virgin Active and offices for Standard Bank and Marsh, among others.



PHASE II: SANLAM/SANTAM

Phase II, a 16,000m^2 building, will be the headquarters of insurance giant Sanlam/Santam. The building achieved 4-star Green Star SA Office v1 Design certification (Dec 2013) and is targeting an As Built for when it is completed in October 2014.





PHASE III: BOWMAN GILFILLAN





Phase III is in design development phase and will start construction soon. The building will be home to the law firm Bowman Gilfillan and is targeting 4-star Green Star SA Office v1 Design and As Built certification.

GREEN STAR PROJECTS

CERTIFIED PROJECT NAME	CLIENT	GREEN STAR CERTIFICATION
40-on Oak	Amdec Property Development	4-star Green Star SA MUR PILOT Design
Upper Grayston Block E	Brydens Properties	4-star Green Star SA Office v1 Design & 5-star Green Star SA Office As Built
Alice Lane Phase I	Abland Properties	4-star Green Star SA Office v1 Design
Alice Lane Phase II	Abland Properties	4-star Green Star SA Office v1 Design
National English Literacy Museum	Department of Public Works	5-star Green Star SA PEB PILOT Design
39 Melrose Boulevard	Amdec Property Development	4-star Green Star SA Office v1 Design
Capital Hill	Abland Properties	4-star Green Star SA Office v1 As Built
MultiChoice City	MultiChoice	5-star Green Star SA Office v1 Design
BMW HQ Midrand	BMW	4-star Green Star SA Office v1 Design

REGISTERED PROJECT NAME	CLIENT	GREEN STAR TARGET
Upper Grayston Block F	Brydens Properties	6-star Green Star SA Office v1 As Built
Alice Lane Phase II	Uvongo Falls	4-star Green Star SA Office v1 Design
Alice Lane Phase III	Abland Properties	4-star Green Star SA Office v1 Design
STATSSA	Dipalopalo Consortium	4-star Green Star SA Office v1 Design
The Angle on Oxford	GroupFive	5-star Green Star SA Office v1 Design
39 Melrose Boulevard	Amdec Property Development	4-star Green Star SA Office v1 As Built
Menlyn Maine Pegasus	Menlyn Maine	4-star Green Star SA Office v1 Design
Monte Circle	Abland Properties	4 Star Green Star SA Office v1 Design
National English Literacy Museum (NELM)	Department of Public Works	5-star Green Star SA PEB v1 As Built
MultiChoice City	MultiChoice	5-star Green Star SA Office v1 As Built
4 Stan Road	Sharmane Investments	4 Star Green Star SA Office v1 Design

PILOT PROJECT NAME	CLIENT	GREEN STAR TARGET
Standard Bank Kuruman Branch	Standard Bank	4-star Green Star SA Interiors PILOT
Standard Bank Century City Branch	Standard Bank	4-star Green Star SA Interiors PILOT
Standard Bank 3 Simmonds Street	Standard Bank	4-star Green Star SA Interiors PILOT
Podium at Menlyn	Emira Property Fund	4-star Green Star SA EBP PILOT
41 Melrose Boulevard	Amdec Property Development	4-star Green Star SA EBP PILOT
Global Leadership Centre	Standard Bank	4-star Green Star SA EBP PILOT

OTHER WORK	CLIENT
South African Building and Construction Industry	Austrian Trade Commission (ATC)
Menlyn Maine LEED Neighbourhood	Menlyn Maine
Green Star for Contractors (course development)	Saint Gobain
Green Star Tool development PEB	Green Building Council of South Africa











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