



GRAEME PAGE
CONSULTING ENGINEERS CC

HVAC CONSULTING SERVICES PROPOSAL

CAPABILITY SUBMISSION

Revision 5

31/01/2020



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1 INTRODUCTION

The firm's members and its key alliances, in the form of joint venture partnerships, when required, have some 55 years' experience in the industry and have been involved with leading developers and professional team members on a number of prestigious projects in all of the sectors. Some of the better known projects by members of the firm are:

RETAIL

- Mall of Africa, Midrand
- Table Bay Mall, Cape Town
- Cornubia Mall, Umhlanga
- Dunes Mall Phase 1 & 2, Namibia
- Jewel City, Johannesburg

CORPORATE OFFICES

- Capital Hill, Sandton
- Facebook Offices, Rosebank
- 78 Corlett Drive, Sandton
- Oracle Offices, Woodmead
- Invesco Tenancy, Sandton

LEISURE

- Meropa Sun, Polokwane
- Signature Lux Hotel, Sandton
- Destiny Hotel, Kempton Park
- Hampton by Hilton Hotel, Sandton

LUXURY ACCOMMODATION

- Park Central, Rosebank
- Southpoint Jorrisen Street, Johannesburg

HEALTHCARE

- Pharmacy Direct DC, Centurion
- Netcare Head Office, Sandton

EDUCATION

- Steyn City Aquatic Centre, Steyn City
- Steyn City School, Steyn City
- John Butler School of Art at St. Dunstan's School, Bedfordview

INDUSTRIAL

- 34 Wrench Road, Isando
- CCL Warehouse, Klipfontein
- Sandvik Offices & Warehouse, Jet Park
- SKF Offices & Warehouse, Jet Park

VEHICLE DEALERSHIPS

- BMW Sovereign, Bloemfontein
- Honda, Tzaneen
- Ford Facility, Pretoria
- Toyota, Mohopane
- Suzuki, Bloemfontein

AIRPORTS

Tanzania International Airport, Tanzania

2 COMPANY INFORMATION

Graeme Page Consulting Engineers CC (GPCE) is a Johannesburg based firm of specialist heating, ventilation and air-conditioning (HVAC) Consulting Design Engineers, servicing the built environment.

The firm founded in 2002 specializes in retail, commercial, hotel, leisure, entertainment and residential projects with a special emphasis on personal client focused delivery.

The staff of the firm are all flexible in their approach to change, ensuring the fastest turnaround of project deliverables.

The business makes use of the latest design, CAD, REVIT and thermal modelling software to ensure each project is delivered a solution of the very highest quality with leading technical innovation.

GPCE staff have, between them, more than 55 years' experience in the design and supervision of mechanical services for buildings in the private and public sectors.

Projects range from the most complex corporate office environments and retail centres to hospitals, sports and leisure facilities and refurbishment projects.

- Registered Name: Graeme Page Consulting Engineers CC
- Registration Number: 2002 / 018728 / 23
- Vat Number: 457 026 2651
- BB-BEE: Currently being re-evaluated
- Professional Indemnity: We confirm our current professional insurance cover to be R12 Million, with an additional single project cover of R52 Million for Mall of Africa.
- Directors: Graeme J. Page | Managing Director | Pr Tech (Eng (Mech))
George Arnold | Director | Pr Eng (Mech)
Steven Barrett | Director | Pr Eng (Mech)
Jan Nieuwenhuizen | Associate
- Postal Address: PO Box 472, Douglasdale, 2165
- Office Telephone: +27 11 794 1907
- Website: www.gpce.co.za

3 QUALITY AND ENVIRONMENTAL

The firm has no formal quality management and environmental management systems in place but follows strict and firm structures to ensure project deliverables and all design standards are met.

This includes but is not limited to design reviews by a Senior Engineer / Director, drawing review by the senior CAD Operator and sign off of all information by the Director in charge of the project.

The firm employs additional contract staff, when required, to ensure quality assurance on site is met and commissioning and testing of the installation is completed and meets the design intent.

4 HEALTH AND SAFETY

The firm has no formal Health and Safety Management system in place but complies with the health and safety regulations on site and completes any induction process/course required for the project. This system is one adapted on all projects.

5 GPCE POINT OF CONTACT

Graeme Page | graeme@gpce.co.za | +27 82 924 5700

6 PROJECT EXPERIENCE AND SERVICES OFFERED

PROJECT EXPERIENCE

- Retail Shopping Centres
- Corporate Offices
- Leisure Facilities
- Luxury Accommodation
- Educational Facilities
- Healthcare and Hospitals
- Industrial Developments
- Showrooms and Dealerships
- Airports

SERVICES OFFERED

- Mechanical Ventilation Solutions
- Close Control and Data Centres
- Smoke Extraction Solutions
- Kitchen Canopy Extraction
- Rooftop Package Units
- Chilled Water Systems
- DX Split Unit Solutions

7 METHODOLOGY, RESOURCES AND PROJECT EXPERIENCE

PROPOSED PROJECT APPROACH

- GPCE recognise and value the importance of design management on all projects. For fast-track projects, we would ensure that all available project management tools and techniques are employed to plan, monitor, and control our own and other related activities.
- Our members, engineers and technicians are experienced and comfortable with fast track construction methods and the skills and techniques required to deliver challenging projects on time, on budget and to the correct standards.
- Recognising the interdependence of various team members at key stages is critical to avoiding unnecessary re-design, and as construction activity overlaps the design process, abortive construction work.
- By discussion and agreement with the project team we will establish and agree requirements for information, procurement, construction, commissioning, fit-out and handover to ensure that design information is available when required, that construction activities and progress are monitored, and that the contractors are directed as necessary. Critical path as well as elemental analysis will be employed to manage risk and adjust resources, timing or activities according to the project dynamics.
- The HVAC procurement methodology will be developed in discussion with the Project Managers, Architects and Quantity Surveyor. The need for early procurement, pre-tender enquiries, bills of quantity, fixed price bids, or negotiated contracts will be identified and the best-value approach for each package agreed. GPCE are conversant with all these methods and will pro-actively participate in or lead the process as is appropriate.
- The cost of change increases exponentially as the project develops and unnecessary change creates diversion and stress within the team which may detract from the completed project and / or delay completion.
- GPCE place great importance on design management and understanding the information needs of our fellow professionals, contractors, and suppliers.

- Value engineering techniques will be employed appropriately to challenge concepts and provide suitable solutions at key stages. By careful and co-ordinated budgetary and design development we will pro-actively manage the cost control to evolve an accurate cost plan as quickly as possible. We will also manage risk issues in a similar fashion to avoid unforeseen costs or problems arising.
- Firstly, however, we must understand the business needs and strategy of our client and develop a brief from which all necessary design and construction processes can evolve without undue compromise, cost or delay. Our aim will be to produce a project which meets our clients' needs, employs appropriate techniques and technology and is as future-proof as possible, whilst being economical to construct and maintain.
- Life cycle cost analysis will be undertaken on appropriate systems, if required, to optimise both initial and operating costs.
- Holistic design solutions will be evaluated where construction or operational benefits are expected.
- Once conceptual designs are established detailed design, procurement, construction and commissioning programmes will be established.
- Where the fit-out works form part of the construction contract this will be evaluated and key stages / interfaces co-ordinated to ensure a smooth transition from shell and core construction to fit-out works.
- Commissioning is critical on such projects to ensure user satisfaction and avoid disillusionment which can occur when incorrect or inadequate commissioning procedures are followed. GPCE will proactively lead this process and ensure that proper facilities and timescales are incorporated and maintained within the project programme.
- GPCE will also provide aftercare to our Clients in the period following handover to assist with staff familiarisation and deal with any issues which may arise.
- As part of our design service we will, if required, prepare the FM Asset Registers to allow early competitive procurement of maintenance services and will assist The Client in setting appropriate service level agreements for the systems and equipment employed.

IN SUMMARY

BRIEFING AND REPORT PHASE

- Assimilate the Client requirements and strategy.
- Undertake surveys and investigations of existing buildings and affected systems.
- Develop outline design and procurement programme, cost/quality targets and risk register.
- Consultations, investigations, and reports on systems etc.
- Infrastructure evaluations and negotiations with utility companies etc.
- Commence fire engineering studies.
- Identify environmental and empowerment strategies.
- Initiate procurement process.
- First stage value engineering.

PRELIMINARY DESIGN AND CONSTRUCTION MOBILISATION

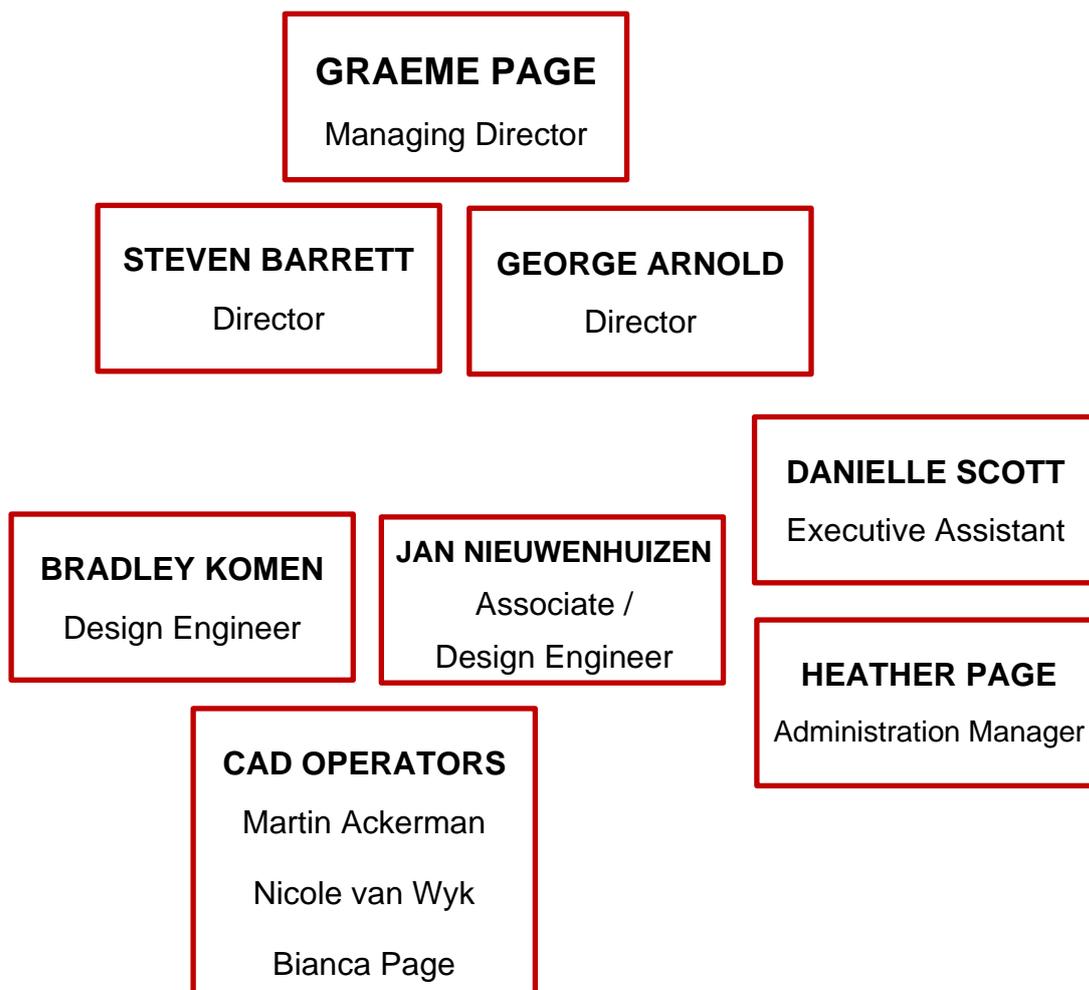
- Develop all above.
- Finalise space planning concepts, engineering accommodation and maintenance requirements.
- Produce first stage construction information.
- Develop and confirm systems solutions.
- Develop and confirm procurement packages, encourage innovation, promote zero-defects culture.
- Identify project contractors and suppliers and involve / appoint as necessary.
- Second stage value engineering.

DETAILED DESIGN AND CONSTRUCTION

- Develop and finalise above.
 - Secure costs (GMP) if possible/necessary.
 - Complete design, detailing and co-ordination.
 - Develop fit-out requirements.
 - Complete contractor / supply appointments on all packages.
 - Manage change.
 - Procure maintenance.
 - Sequence to suit fit-out requirements.
 - Manage programme slippage to protect outcomes.
 - Involve maintenance teams.
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| | |
|--------------------------|---|
| COMMISSIONING | <ul style="list-style-type: none"> • As above. • Eliminate defects. |
| FINAL INSPECTION | <ul style="list-style-type: none"> • Arrange formal handover on site with client and handover official as built documentation. |
| HANDOVER | <ul style="list-style-type: none"> • Adjust input to suit our Clients requirements. |
| AFTERCARE | <ul style="list-style-type: none"> • Quarterly feedback meetings with our Clients and maintenance contractors. • Schedule final inspections to suit operational requirements. |
| DEFECTS LIABILITY PERIOD | <ul style="list-style-type: none"> • Eliminate defects arising. |

COMPANY ORGANOGRAM



PROJECT EXPERIENCE

MALL OF AFRICA | HVAC VALUE R 140 MILLION | COMPLETED 2016



DUNES MALL | HVAC VALUE R 27 MILLION | COMPLETED 2019



TABLE BAY MALL | HVAC VALUE R 54 MILLION | COMPLETED 2017



ORACLE OFFICE WOODMEAD | HVAC VALUE R 5 MILLION | COMPLETED 2019



DESTINY HOTEL | HVAC VALUE R 20 MILLION | IN PROGRESS



PARK CENTRAL | HVAC VALUE R 20 MILLION | COMPLETED 2019



STEYN CITY SCHOOL | HVAC VALUE R 7 MILLION | COMPLETED 2020



PHARMACY DIRECT DC | HVAC VALUE R 10 MILLION | COMPLETED 2018



CCL WAREHOUSE | HVAC VALUE R 5 MILLION | COMPLETED 2019



BMW SOVEREIGN BLOEMFONTEIN | HVAC VALUE R 3 MILLION | COMPLETED 2018



OUR CLIENTS



STEYN CITY

