The November 2012 edition of our magazine was the fourth attempt at presenting the formidable network of engineering bodies that SAICE liaises with on behalf of its members. Again the response from our readers was so encouraging that we decided to continue publishing an updated version every year. For this year we have updated the information where necessary, and where possible, and retained the list of all the tertiary institutions in South Africa where civil engineering can be studied (this list seems to be very popular with our readers).

As time goes by more and more bodies and affiliations will be added to the different sections comprising this set of articles, and we also invite readers to let us know of relevant bodies that we might have overlooked.

The feedback from our readers so far seems to indicate that the November magazine is becoming a handy keep-on-the-desk reference edition, which is understandable, considering that SAICE continually liaises, networks and affiliates with many groupings across a broad engineering and related playing field.

There are many reasons why SAICE interacts with these related bodies. As the voice of the civil engineering profession in South Africa, the Institution has a responsibility not only to represent the interests of every one of its approximately 10 000 members, but also to promote the value that civil engineering adds to the economy and the smooth running of the country, and thereby to the daily lives of communities and individual citizens.

Explaining to our colleagues and fellow citizens what SAICE and the profession stand for is no simple task. Creating a network involves hours and days and weeks, even years, of liaising, and of building trust and credibility. Fortunately engineers are passionate about what they do, and this enthusiasm goes a long way towards getting the message across, but it nevertheless remains a complex task.

One could summarise the reasons why such interaction is so valuable:

- An understanding of the role of the civil engineering profession promotes informed decision-making at all levels of interaction. To mention but one example – informed decision-making facilitates effective service delivery at local government level.
- Knowledge and insight gained through interaction encourage appropriate membership groupings, and eventual professional registration for individuals, which have long-term positive effects for the engineering profession in particular, and for the country and its citizens in general.
- Meaningful interaction results in the integration of effort and the alignment of objectives, which in turn broaden the skills and knowledge base, facilitating capacity building, again with obvious benefits to the country as a whole.
- Interaction on an international level exposes the Institution to global thinking, while at the same time offering SAICE the opportunity to contribute to the global debate. It also ensures that our members are enabled to practise engineering across a wide front, thereby gaining valuable experience that can be ploughed back into our own country and our own continent. What should also not be underestimated is that our African experience furnishes us with extremely valuable knowledge that we can share with and contribute towards other African countries and other developing countries elsewhere in the world. The value of our contribution, however, goes beyond developing countries and is highly appreciated in developed countries with similar problems and challenges.

The bodies that SAICE networks with can be grouped into:

- Statutory bodies and associated structures (see page 12)
- Discipline-specific bodies (see page 25)
- International bodies (see page 33)
- Tertiary institutions (see page 39)

There are overlaps in this method of grouping, but for the sake of clarity the various bodies will be discussed under these headings.

This set of articles attempts to describe and illustrate the scope of SAICE’s network. We have gone to great lengths to ensure that the information presented here is as accurate as possible. However, should any inaccuracies have slipped through, we apologise for those.
Quick finder

BODIES DISCUSSED IN NETWORKING ARTICLES 2 – 5

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THE ENGINEERING profession approached government in the 1960s to request legislation to regulate the profession. The result was that the South African Council for Professional Engineers (SACPE) was established in 1969.

Although this structure served the profession very well, it became clear that the changing world and the changing political dispensation in South Africa would necessitate substantial modifications. In 1992 SAICE approached SACPE to suggest a way forward in the new democratic dispensation that would be coming about in 1994. The main thrust was to ensure that South African engineering education and professional status would be recognised in subsequent years.

The Institution of Civil Engineers UK (ICE) was extremely helpful, and a delegation visited South Africa to facilitate understanding of the international professional engineering world of that time. ICE indicated that they would be willing to sign reciprocity agreements with SACPE if South Africa would accept the standards and models that they were using in the UK.

SAICE took the lead in providing input, and by the year 2000 a brand-new, modern set of Acts was promulgated, which enabled South African built environment professionals to be compared to and compete with the best in the world.

In the process two new additions also came about. In the first place an overarching Council for the Built Environment was established, and in the second place a new profession saw the light, namely that of Project Managers.

In this article all six statutory councils are discussed, with emphasis on those that have particular significance to the civil engineering profession.

CBE – THE OVERARCHING STATUTORY COUNCIL

The Council for the Built Environment (CBE) is the umbrella body for the six statutory councils for professionals discussed below. The Act according to which the CBE came into being (Act No 43 of 2000) mandates the Council to, among other things:

- ensure uniform implementation of mandated policy amongst the six councils that regulate the various built environment professions
- advise government on issues related to the built environment professions.

CBE

CBE, PO Box 915, Groenkloof, 0027
T: 012 346 3985, F: 012 346 3986
E: info@cbe.org.za, W: www.cbe.org.za
cnr Middel St & Queen Wilhelmina Ave, Brooklyn, Pretoria

THE SIX STATUTORY COUNCILS FOR PROFESSIONALS

The six statutory councils listed below were established through Acts of Parliament to regulate the various built environment professions. Generally speaking the main statutory function of each of these Councils is to protect the public by effectively controlling the education and practising standards of the particular profession that it represents. Hence these Councils all have Codes of Conduct that registered persons have to abide by.

In this article all six statutory councils are discussed, with emphasis on those that have particular significance to the civil engineering profession.

ECSA (Engineering Council of South Africa)

ECSA regulates the entire engineering profession including civil engineering, mechanical engineering, electrical engineering, industrial engineering and related engineering disciplines. For in-depth information on ECSA see the ECSA advertorial on pages 14 and 15. Three Fellows of SAICE have so far served as presidents of ECSA.

ECSA

ECSA, Private Bag X911, Bruma, 2026
T: 011 607 9500, F: 011 622 9295
E: engineer@ecsa.co.za, W: www.ecsa.co.za
1st Floor Waterview Corner, Bruma Lake Office Park, 2 Ernest Oppenheimer Ave, Bruma, Johannesburg

SACPCMP (South African Council for the Project and Construction Management Professions)

In order to protect public interest and advance construction and project management education, the SACPCMP provides professional certification, registration and regulation of project and construction management professionals. The SACPCMP was established by Section 2 of the Project and Construction Management Act of 2000 (Act No 48 of 2000).

The SACPCMP is mandated by this Act to, among others:

- keep a national register of registered professionals and candidates in Construction Management and Construction Project Management
- identify the type of project and construction work which may be performed by registered persons
- conduct accreditation visits to tertiary institutions that offer Construction Management and Construction Project Management
- consult with the South African Qualifications Authority (SAQA) and Voluntary Associations to determine competency standards for the purpose of registration
- investigate charges of improper conduct by registered persons.

SACPCMP

SACPCMP, PO Box 6286, Halfway House, 1685
T: 011 318 3402/3/4, F: 011 318 3405
E: admin@sacpcmp.org.za
W: www.sacpcmp.org.za
International Business Gateway, 1st Floor Gateway Creek, cnr New Road & 6th Road, Midrand

Statutory bodies and associated structures
SACAP (South African Council for the Architectural Profession)

SACAP, established under the Architectural Profession Act 44 of 2000, is responsible for the regulation of the architectural profession, thereby protecting the public. It is the vision of SACAP to develop highly competent architectural professionals compliant with international best practice and serving the specific needs of developing economies.

SACAP’s mission is to ensure excellence in performance and service delivery and to foster collaborative relationships with role players in order to:

- be responsive to the needs of the public
- maintain a quality and sustainable skills base in the profession
- ensure good governance which results in a positive impact on the built environment practice
- grow the information and knowledge hub
- promote transformation and diversity within the built environment.

Through the Act, SACAP is mandated to:

- keep and maintain a national register of professional and candidate categories of registration
- accredit higher learning institutions offering architectural qualifications
- investigate complaints and violations of the Code of Professional Conduct by registered persons
- facilitate renewal of registrations through Continuing Professional Development (CPD)
- provide professional fees guidelines
- identify the scope of work and competencies of each of the categories of registration.

SACLAP (South African Council for the Landscape Architectural Profession)

SACLAP evolved from the Board of Control for Landscape Architects which had functioned under the previous Council of Architects (now SACAP – see afore-mentioned). It performs functions similar to those of SACAP, but with a specific focus on landscape architectural professionals. Registering categories are: Professional Landscape Architects, Professional Landscape Technologists, Professional Landscape Technicians, and Professional Landscape Assistants. New registration categories in the disciplines of Landscape Construction Managers and Ornamental Horticulturists are currently being developed.

SAQSP (South African Council for the Quantity Surveying Profession)

The SAQSP came into being through Act 49 of 2000. Broadly speaking, quantity surveyors are the financial consultants of the construction industry whose training and experience qualify them to advise on budgeting, costs and contractual arrangements and to prepare contract documents, from concept to completion. They act in liaison with architects, consulting engineers and contractors to safeguard the client’s interests. The Council performs similar functions to those of the afore-mentioned councils, obviously with its focus on the quantity surveying profession.

SACQSP (South African Council for the Quantity Surveying Profession)

SACQSP, PO Box 654, Halfway House, 1685
T: 011 312 2560/1, F: 011 312 2562
E: admin@sacqsp.co.za
W: www.sacqsp.org.za
Unit C27, Block C, Lone Creek, Waterfall Office Park, Bekker St, Vorna Valley, Midrand

SACPVP (South African Council for the Property Valuers Profession)

The SACPVP registers persons operating in the property valuers profession according to the Property Valuers Profession Act 47 of 2000. Generally speaking, this Council’s function and modus operandi are the same as those of the afore-mentioned five statutory councils. New registration categories in the disciplines of Valuers, Professional Associated Valuers, Single Residential Property Assessors, and Candidate Valuers.

Voluntary Associations associated with Statutory Councils

Each of the afore-mentioned six statutory councils has jurisdiction over groupings of voluntary associations that fall within its frame of reference. Those voluntary associations with which SAICE has closest ties, and which are recognised by and fall under ECSA’s jurisdiction, are listed below. Some of these associations are covered in more detail in the section dealing with discipline-specific bodies (page 25).

IMESA  Institution of Municipal Engineers of Southern Africa
CESA  Consulting Engineers South Africa
SAFCEC  South African Federation of Civil Engineering Contractors
SAIMechE  South African Institution of Mechanical Engineering
SAIEE  South African Institute of Electrical Engineers
IPET  Institute of Professional Engineers and Technologists
WISA  Water Institute of Southern Africa
SAISC  Southern African Institute of Steel Construction
CSSA  Concrete Society of Southern Africa
SARF  South African Road Federation
SASTT  South African Society for Trenchless Technology
SAIE  Southern African Institute of Industrial Engineers
SAIMM  Southern African Institute of Mining and Metallurgy
ITC  Institute of Timber Construction
NSBE  National Society of Black Engineers
SAIAE  South African Institute of Agricultural Engineers
SAID  South African Institute of Draughting
SAIW  South African Institute of Welding

ASSOCIATED STATUTORY BODIES

The statutory bodies discussed below were also established through Acts of Parliament. These bodies regulate and guide various construction and related engineering activities. This list includes only some of the associated statutory bodies related closely to the civil engineering profession.
INTRODUCTION TO ECSA
The Engineering Council of South Africa (ECSA) is a statutory body established in terms of the Engineering Profession Act, 2000 (Act No 46 of 2000) (EPA). This Act supersedes the Acts of 1990 and 1968 and progressively extended ECSA’s scope beyond the original purpose, namely to regulate professional engineers. ECSA and its predecessor have thus regulated engineering practice for more than forty years. ECSA exists as a regulatory body for the profession of engineering because, while engineering activity is essential and beneficial to society and the economy, substantial risks to health, safety and environment accompany engineering activity that must be managed by competent professionals. In addition, engineering services must be of high quality in the interests of economy and the public’s safety. ECSA is also empowered to advise government and other parties, and to take necessary steps to protect the public interest, health and safety, improve standards of engineering services, create awareness of the need to protect the environment and conduct research.

GOVERNANCE AND OPERATIONS
ECSA is governed by a Council of 50 members of whom 30 are registered professionals representing disciplines and categories within the engineering profession, 10 are nominees of the state and 10 are public representatives. This composition arose from a principle in the 1999 Policy Document: regulation of the profession should rely primarily on professional expertise, but should be informed by the public interest.

Most of ECSA’s functions require peer judgement in decision-making. ECSA has a range of committees with specific decision-making powers, for example registration, accreditation and investigation committees. Such committees are constituted by nominations from stakeholder bodies – Voluntary Associations (VAs) and higher education institutions. The committee system relies on more than 600 volunteers from the engineering profession. These volunteers generously give of their expertise and time, and work tirelessly for the good of the profession.

The VAs are the seat of expertise in engineering disciplines and specialised practice areas. ECSA consequently works very closely with them. The EPA provides a recognition mechanism for VAs; currently 45 VAs are recognised. The day-to-day running of the Council is handled by a staff complement of around 60 people headed by a Chief Executive Officer. The executive and administrative functions of ECSA on the one hand support the expert peer-review committees that make decisions relating to standards, accreditation, registration, professional conduct and international recognition. On the other hand, a wide range of expertise is available to support the executive function in volunteer committees on career information, communication, marketing, corporate governance, finance and legal matters.

ROLE OF REGISTRATION
Registration of engineering practitioners as professionals or candidates in the categories of engineer, technologist, technician, certificated engineer, and specified categories is a key function of ECSA which is embedded in the Engineering Profession Act (No 46 of 2000). Currently the number of professional, candidate and specified category registrations with ECSA exceeds 40,000.

Engineering is a profession with a core competency of solving problems based on engineering sciences. Engineering solutions are necessary for the delivery of infrastructure, goods and services. Because engineering involves exploiting and controlling natural forces and complex systems and processes, the attainment of solutions is accompanied by risks. Mitigation of these risks requires competent and accountable engineering professionals. The registration system has been established by law to ensure this competence and accountability.

Registration provides public recognition that the registered person has, through education, training and experience, demonstrated competence at an established level. It signals to the public, employers and peers that the person has not only demonstrated competency, but is bound by a Code of Conduct, is accountable for professional conduct and is committed to maintaining his or her competency. Titles attached to categories of registration and their abbreviations, for example Professional Engineer (Pr Eng), are legally protected, and it is therefore a criminal offence for an unregistered person to use such a title.

The intent of the EPA is to require registration for the responsible performance of identified functions. There are, in addition, a number of instances in which registration in particular categories is required by other legislation, for example the National Building Regulations, the Pressurised Equipment Regulations and the Water Act.

Engineering is a global activity, with services and technology being exchanged across national boundaries. The standards of engineering education and professional competence are therefore benchmarked internationally. At the educational level, ECSA is a signatory to the Washington, Sydney and Dublin Accords (respectively for the education of engineers, engineering technologists and engineering technicians). These agreements, in addition to periodically verifying ECSA’s standards and accreditation processes, also provide for mutual recognition of graduates among the signatories.

Registration with ECSA and membership of a VA such as SAICE (South African Institution of Civil Engineering) are complementary. The VA promotes the interests of the discipline and its members and provides services such as continuing professional development. Different grades of membership – for example student, member and fellow – recognise the member’s career progression. ECSA provides the legal regulation of professional practice to ensure that safe, effective and environmentally sound solutions are provided and that risks are managed. The nexus between the VA and ECSA is a corps of professionals, benefiting from the VA activities and professionally recognised through registration.

STRATEGIC INITIATIVES
ECSA’s discretionary functions under the EPA include advising government and other bodies, undertaking or promoting research, taking any steps to protect the public interest, improving standards of engineering services, promoting environmental protection, and health and safety. ECSA has a number of strategic initiatives related to the engineering skills pipeline.

Over the last few years ECSA has significantly increased its involvement in and focus on strategic initiatives. The strategic initiatives were carefully chosen to ensure a reinforcement of Council’s repositioning of ECSA as an organisation relevant to the development of South Africa, willing and able to partner with government in areas of priority skills and national imperatives.

Some of ECSA’s strategic initiatives include:

Engenius
ECSA and its strategic partners continued the drive to promote the engineering profession to learners at high school through Engenius. Engenius is a career guidance programme.
The study report titled “Improving Throughput in from traditional South African universities. The barriers to engineering students graduating output from South African universities. In 2011, the profession is linked to the engineering graduate sustainability of a representative engineering group with task teams to develop and ensure good practice is adopted in terms of work-discipline-specific guidelines for the nine accepted disciplines of engineering.

ECSA has accordingly introduced a Commitment and Undertaking (C&U) system with employers of candidate engineering practitioners, in terms of which candidates are trained under formal mentorship of a professionally registered engineer or technologist in the discipline of engineering concerned. Mentors are listed per employer next to the employer’s C&U number. Nationally, more than 400 employers have registered in excess of 800 Commitment and Undertakings with ECSA, with more than 3 200 mentors listed.

ECSA has set up a candidacy working group with task teams to develop and ensure that good practice is adopted in terms of workplace training towards professional registration.

The Throughput Study

The sustainability of a representative engineering profession is linked to the engineering graduate output from South African universities. In 2011, ECSA commissioned a study to determine the barriers to engineering students graduating from traditional South African universities. The study report titled “Improving Throughput in...
CIDB (Construction Industry Development Board)
The CIDB was established by Act No 38 of 2000 to provide leadership to stakeholders and to stimulate sustainable growth, reform and improvement of the construction sector for effective delivery and the industry’s enhanced role in the country’s economy.

The Board of the CIDB comprises private and public sector individuals appointed by the Minister of Public Works on the strength of their industry knowledge and expertise. Board members represent the following sectors:
- public and private sector clients
- public entities
- contractor and employer associations
- professions
- financial institutions
- materials suppliers
- organised labour
- academic institutions.

Board members are non-executive and rely on the executive capacity of the CIDB to implement the Board’s mandate, which include the following:
- the establishment of a national register of contractors and construction projects to systematically regulate, monitor and promote the performance of the construction industry for sustainable growth, delivery and empowerment
- the improvement of the uniform application of procurement policy throughout all spheres of government
- the improvement of performance and best practice by public and private sector clients, contractors and other participants in the construction delivery process
- the promotion of sustainable participation by the emerging sector.

CETA (Construction Education and Training Authority)

CETA, which was established through the Skills Development Act of 1998 to develop and improve the skills of the South African workforce, is accredited by the South African Qualifications Authority (SAQA). CETA’s prime objective is to influence training and skills development in the construction sector by initiating skills development projects and learnerships which will empower construction workers with skills recognised by the National Qualifications Framework (NQF). CETA does not do any training itself, but accredits and monitors the delivery of training by accredited training providers. CETA also ensures that people who have acquired construction skills, but who do not have the necessary qualification, are included in the Recognition of Prior Learning assessment process.

CETA
CETA, PO Box 1955, Halfway House, 1685
T: 011 265 5900, F: 011 265 5925
W: www.ceta.org.za
563 Old Pretoria Main Road, 1st Floor, Unit 5, Midrand Business Park, Midrand

NHBRC (National Home Builders Registration Council)
The NHBRC as we know it today came into being on 26 March 2001 through the Housing Consumer Protection Measures Act No 95 of 1998. Its main function is to protect the interests of housing consumers, and to regulate the home building industry. It does this by:
- monitoring quality standards in the home building industry
- providing assistance to housing consumers in circumstances where major structural defects occur and where homebuilders fail to meet their obligations in terms of the Act
- building the capacity of home builders through a national training programme with specific emphasis on the historically disadvantaged
- providing technical and management support to provincial housing departments and local authorities
- educating housing consumers and home builders alike about their rights and obligations
- growing and sustaining the warranty reserve.

NHBRC
NHBRC, PO Box 461, Randburg, 2125
T: 011 525 5500, F: 011 317 0105
W: www.nhbrc.org.za
10 Muswell Road South, Phase 4 Medscheme Bldg, Bryanston, Johannesburg

RSR (Railway Safety Regulator)
The RSR is an agency of the Department of Transport and was established through the National Railway Safety Regulator Act No 16 of 2002. This Act stipulates that railway operators are responsible for managing safety, while the RSR is responsible for overseeing safety. To this end the mandate and activities of the RSR throughout the life cycle of a railway operation include the following:
- promoting improved safety performance in the railway transport industry in order to promote the use of rail as a mode of transport
- managing the safety permit process
- developing regulations and standards
- monitoring compliance with the Act, regulations, standards, and the operator’s safety management system through the conducting of audits and inspections
- conducting investigations into occurrences to determine the root causes
- concluding cooperative agreements with state organs whose activities may impact on railway safety, in order to prevent duplication, and improve efficiency
- promoting the harmonisation of the South African railway safety regime with the objectives and requirements for safe railway operations of the Southern African Development Community (SADC).

RSR
RSR, PO Box 655, Bruma, 2026
T: 011 417 0000, F: 011 417 0010
E: helpdesk@rsr.org.za, W: www.rsr.org.za
Ground Floor, West Wing, Waterview Corner, 2 Ernest Oppenheimer Ave, Bruma

SABS (South African Bureau of Standards)
SABS was established through the Standards Act No 24 of 1945. The Act has passed through many amendments, and SABS is currently governed by the Standards Act 8 of 2008 that took effect simultaneously with the NRCS Act (see below) on 1 September 2008. SABS is the national institution for the promotion and maintenance of standardisation and quality regarding commodities and the rendering of services.

The main functions of SABS, from an engineering perspective, include the following:
- facilitating the preparation of national standards (SANS, i.e. SA National Standards) through a consensus process within various specific technical committees made up of industry representatives and technical experts
We didn’t double his business in the first year
We didn’t find him trustworthy employees
We didn’t teach him how to build solid structures

WE DID

MAKE THE CEMENT HE BUILT HIS REPUTATION ON

LIST HIS COMPANY ON THE STOCK EXCHANGE

With the planet as one of our core values, we assess the carbon footprint of each and every one of our operations and products, while actively striving to drive down our impact on the environment.

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The School of Civil and Environmental Engineering, Wits University, in collaboration with Surrey University, UK

Present a short course on

**DESIGN OF MASONRY STRUCTURES**

**Wits University Johannesburg: 3, 4 & 5 February, 2014**

**Universidade Eduardo Mondlane, Maputo: 29, 30 & 31 January, 2014**

**COURSE OVERVIEW**

The two and a half day course on masonry design is aimed at professionals from the industry. The lectures are developed to provide design fundamentals as well as the most current information available for sound masonry practices for all design and construction professionals. Lectures will be supported with case studies, and design examples are based on both SANS and Euro-code standards. Course notes are provided and certificates of attendance will be issued to all participants. Delegates can claim 2.5 ECSA CPD points.

**COURSE PRESENTERS**

A.N. FRIED, PhD, CEng, MICE, FIMS. Surrey University, UK
H.C. UZOEGBO, PrEng, MSc, DIC, PhD, FSAICE, FIMS, Wits University

**GENERAL COURSE TOPICS**

Introduction to masonry and construction; Modern Masonry Construction; Codes standards and regulations; Design of masonry for vertical loading; Design of laterally loaded masonry; Combined loads, Concentrated loads, Non-conventional masonry, Accidental damage; Reinforced masonry design; Thermal, acoustic and fire design; Masonry diaphragm walls; Masonry Arches.

**REGISTRATION**

DESIGN OF MASONRY STRUCTURES: JOHANNESBURG: 3, 4 & 5 February, 2014

To register please contact: Lubica Korac; Tel: +27 11 717 7132; Fax: +27 86 5535345
Cell: +27 731061087; Email: Lubica.korac@wits.ac.za

- Regular R4 700 (VAT incl)
- Early Bird R3 700 (VAT incl), before January 15, 2014
- Student 50% discount

Payment to: FNB; Account Name: Faculty of Engineering and the Built Environment; Account Number: 62150130260; Branch code: 255005

For Maputo registration, contact: Rogerio Pave:r_pave@yahoo.co.uk; Tel.+258 82 3021 756
SABS
SABS, Private Bag X191, Pretoria, 0001
T: 012 428 7911
E: info@sabs.co.za, W: www.sabs.co.za
SABS Campus, 1 Dr Lategan Road, Groenkloof, Pretoria

NRCS (National Regulator for Compulsory Specifications)
The NRCS was established by the National Regulator for Compulsory Specifications Act No 5 of 2008, whereby the Regulatory Division of SABS and all regulatory functions of SABS were transferred to the NRCS. The NRCS is an autonomous institution of the DTI (Department of Trade and Industry) that administers technical regulations (compulsory specifications) based on national standards in the interests of human health, safety and protection of the environment. The regulated products include cement and treated structural timber, and a wide range of automotive, electrical and food products. NRCS also administers the Legal Metrology regulations governing measurements used in trade.

Sections 4 – 7 of the National Building Regulations and Building Standards Act (Act 103 of 1977) empower local authorities to administer the National Building Regulations. Building control officers are empowered and required to review and approve building plans and designs, including rational designs. The Act requires the Board and CEO of NRCS to perform a number of statutory functions, including advising the Minister regarding building regulations, inspections, the appointment of building control officers, and acting as secretariat to a Review Board that provides a dispute settlement service for the benefit of owners, developers and local authorities.

WRC (Water Research Commission)
The WRC operates in terms of the Water Research Act 34 of 1971. This Act mandates the WRC to, among other tasks:
- promote coordination, cooperation and communication in the area of water research and development
- stimulate and fund water research according to priority
- promote effective transfer of information and technology
- enhance knowledge and capacity building within the water sector.

WRC
WRC, Private Bag X03, Gezina, 0031
T: 012 230 0340, F: 012 331 2565
E: info@wrc.org.za, W: www.wrc.org.za
Marumati Building, cnr Frederika St & 18th Avenue, Rietfontein, Pretoria

GOVERNMENT AND OTHER STRUCTURES ASSOCIATED WITH THE BUILT ENVIRONMENT
SAICE has a unique position in the sense that it represents individual members of the civil engineering profession whilst many other bodies represent a focused vocational or industry-specific sector and often have only company membership. This means that SAICE is seen mostly as an organisation that has a broad and independent constituency and can operate from a particular viewpoint and/or independent basis. This aspect is highly valued.

In order to promote the profession, create understanding and facilitate credible and trustworthy relationships and support systems, SAICE has since 1994 engaged extensively with government structures on a scale that has never been seen before in the long history of the Institution. Regular meetings with Ministers and Departments have been a feature of the SAICE annual calendar since the middle 1990s. SAICE liaises mainly with the following government departments:
- The Department of Public Works
- The Department of Cooperative Governance and Traditional Affairs
- The Department of Transport
- The Department of Water Affairs
- The Department of Environmental Affairs
- The Department of Trade and Industry
- The Department of Human Settlements (previously the Department of Housing)
- The Department of Basic Education
- The Department of Higher Education and Training
- The Department of Science and Technology
SAICE representatives have also made meaningful presentations to the Portfolio Committees of a number of these government departments, not only to explain the contribution that the civil engineering profession can make, but also to alert the various Committees to the current state of conditions within those particular government sectors, as seen from an engineering perspective. SAICE’s liaison with government departments is of extreme importance to the future of the profession and the country alike.

For the purposes of this article we will very briefly discuss only the Department of Public Works, as this department has direct bearing on many aspects of the built environment, and hence on the civil engineering profession.

DPW (Department of Public Works)
Broadly speaking the DPW’s mandate is to be the custodian and manager of the national government’s fixed assets for which legislation does not make another department or institution responsible. This includes the rendering and maintenance of built environment services.

In recognition of this mandate, as well as of the current poor state in which public assets are, the DPW developed the National Infrastructure Maintenance Strategy (NIMS), which has to ensure the adequate maintenance and operation of infrastructure, with the aim of sustained service delivery, growth and job creation. This approach in turn contributes to the goals of AsgiSA (Accelerated and shared growth initiative for South Africa) and the EPWP (Expanded Public Works Programme).

By way of a brief background - the aim of AsgiSA is to address unemployment and poverty in South Africa. Shortly after the launch of AsgiSA in 2006, JIPSA (Joint Initiative on Priority Skills Acquisition) was established to address the scarce and critical skills needed to meet the
AsgiSA objectives. The EPWP, on the other hand, provides relief to the poor and unemployed through temporary, but useful work, which has the added benefit of transferring skills. The civil engineering profession is increasingly involved in particularly the EPWP.

The DPW also provides strategic direction for the development of the construction sector in partnership with its sector entities (see further down, as well as the CIDB already discussed above), and seeks to engage with institutions of higher learning to ensure a constant supply of suitably qualified built environment practitioners.

Readers are encouraged to visit the DPW website, as space limitations prohibit us to expand further on this department’s importance to the civil engineering profession and the construction industry.

DPW
DPW, Private Bag X229, Pretoria, 0001
T: 012 310 5907/5954, F: 012 310 5184
E: nyeliti.makhubela@dpw.gov.za
W: publicworks.gov.za
AVN Building, cnr Skinner & Andries St, Pretoria

NPC (National Planning Commission of South Africa)
The NPC is tasked with developing a vision for South Africa in 2030 and a road map to take the country there. The commission is chaired by Trevor Manuel, with Cyril Ramaphosa as deputy. Two SAICE Fellows – past president Trueman Goba and Prof Mike Muller – were appointed as commissioners to offer insight on the engineering challenges facing the country and guide the development of solutions.

NPC
Union Buildings, Private Bag X1000, Pretoria, 0001
T: 012 308 1791,
F: 086 683 5479
E: comments@npconline.co.za
W: www.npconline.co.za
Twitter: @npcSA/http://www.twitter.com/npcSA
Facebook: http://www.facebook.com/npcSA

HRDCSA (Human Resource Development Council of South Africa)
In response to South Africa’s continuing low skills base, government established the HRDCSA, led by Deputy President Kgalema Motlanthe, and managed by the Minister of Higher Education and Training, Dr Blade Nzimande. The HRDCSA is responsible for setting the Human Resource Development Strategy for South Africa (HRDSA).

The HRDCSA comprises social partners from all segments of society, including government, organised labour and business, academia and civil society, and provides a platform where social partners can discuss and mutually agree on solutions to the skills crisis and the human resource development challenges facing the country. The HRDCSA is supported by a Technical Working Group (TWG) that provides technical expertise and strategic advice. A secretariat located within the Department of Higher Education and Training (DHET) provides strategic, technical, administrative, logistic and management support to the HRDCSA and its committees. At the end of 2010, Council approved the following five-point plan:

- Strengthening and support of Further Education and Training (FET) colleges to increase access
- Production of intermediate skills (artisans in particular) and professionals
- Production of academics and stronger partnerships between industry and higher education and training institutions in research and development
- Worker education
- Foundational learning.

Originating from the five-point plan, the following nine Technical Task Teams (TTT) were established:

- FET colleges TTT
- Artisan and Technician Development TTT
- Production of Professional TTT
- Production of Academics and Stronger Partnerships Between Industry and Higher Education and Training Institutions TTT
- Worker Education TTT
- Foundational Learning TTT.

The following Technical Task Teams were established as a result of the needs identified by Council (they also will be addressing cross-cutting issues):

- Enabling Entrepreneurship
- Alignment of the HRDSA with the New Growth Path (NGP)
- Skills System Review.

Task teams have been constituted to reflect the nature of the HRDCSA’s social partnership and comprise experts across the social partner spectrum. Approximately 18 months into the HRDCSA’s existence, it was agreed that the HRDCSA, its operations and structures should be reviewed to determine whether or not it was appropriately structured and resourced to deliver on its mandate.

The review established that, even though much had been achieved in the 18-month period, some challenges still existed with regard to the role of the HRDCSA and its social partners, the need to better prioritise its work and to ensure that structures were sufficiently resourced to deliver on its mandate. As a result of these findings, steps are being taken to develop a national, integrated human resource development plan for the country as a matter of priority.

The establishment of the HRDCSA reflects government’s commitment to partnerships. It is an acknowledgement that, in order to deal with the human resource and skills crisis facing South Africa, all stakeholders need to jointly take ownership of the challenge and collectively work together and develop solutions to identified human resource and skills system bottlenecks.

HRDCSA
Ms Brenda Ntombela: Head of HRD Council Secretariat
123 Frances Baard Street, Pretoria, 0001
T: 012 312 5047, F: 086 714 0296
E: ntombela.b@dhet.gov.za

CSIR (Council for Scientific and Industrial Research)
The CSIR, among its many other activities, generates knowledge for the development of an efficient and globally competitive built environment system in South Africa. Solutions positively affect the following areas, amongst others:

- housing and human habitats
- infrastructure development (e.g. roads, ports etc)
- access and mobility
- rural infrastructure development and poverty alleviation
- environmental sustainability
- public buildings (such as health facilities and schools)
- service delivery by the public sector.

The following are a few of the areas that the CSIR covers in its built environment research:

- planning support systems
- infrastructure engineering
- science and technology
- infrastructure systems and operations
- logistics and quantitative methods.
Reports and brochures available from the CSIR (among them the following) reflect the scope of its research:
- improved low income housing
- ultra-thin concrete technology for low-volume roads
- stress-in-motion (SIM) – tyre/road interface contact stresses
- ongoing research into planning support systems
- advanced construction technology
- coastal engineering and port infrastructure
- future ports – enhancing the competitiveness of SA’s ports
- i-Roads – enhancing the performance of SA’s road systems
- transport infrastructure engineering (including the very popular technical guideline document on the causes, prevention and repair methods of potholes)
- enhanced service delivery in urban areas
- the annual “State of Logistics Survey for South Africa”.

The CSIR has worked closely with SAICE on a number of occasions – most recently, the CSIR wrote the research reports on infrastructure conditions that underpinned the SAICE Infrastructure Report Card for South Africa 2011.

**CSIR**
CSIR Built Environment,
PO Box 395, Pretoria, 0001
T: 012 841 3871
F: 012 841 4755
E: cruiters@csir.co.za (Dr Cornelius Ruiters, Executive Director, CSIR Built Environment)
Meiring Naude Road, Brummeria, Pretoria

**Agrément South Africa**
Agrément South Africa is an independent and internationally recognised technical assessment organisation. It was established in 1969 and operates under a ministerial delegation of authority from the Minister of Public Works. The organisation is managed by and located at the Council for Scientific and Industrial Research (CSIR) in Pretoria. The organisation establishes performance criteria and assesses the fitness-for-purpose of innovative and non-standard construction products and systems. Agrément certification, which lists uses and conditions where necessary, offers assurance to specifiers including engineers, regulators, financial institutions and end users of fitness-for-purpose and quality assurance, thereby facilitating the introduction of new products into the market. Certification is also deemed-to-satisfy the requirements of the National Building Regulations. The organisation is a founder member of the World Federation of Technical Assessment Organisations.

**Agrément South Africa**
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**IDT (Independent Development Trust)**
As one of the country’s leading development agencies, the primary function of
the IDT is to add value to the national development agenda of government. It does this through its business model that is grounded in the delivery of innovative and sustainable development programmes that will make a measurable difference to the levels of poverty and underdevelopment. The IDT works with and interfaces with government and communities to alleviate and eradicate inter-generational poverty, provide socio-infrastructural, meet empowerment targets, create employment opportunities and build capacity in core areas. Generally the IDT works in rural areas, especially those characterised by high levels of poverty and unemployment. A key challenge, due to decades of under-development, remains the high levels of poverty, especially amongst women and the youth. The IDT has made a strategic shift to ensure that all development initiatives cater for women and their beneficiaries, and has women organisations as primary target groups.

**DBSA (Development Bank of Southern Africa)**

The DBSA works closely with different levels of government, parastatals and public enterprises to assist with the financing, implementing and supporting of projects that aim to overcome backlogs in infrastructure delivery and human resources, thereby improving the quality of life of the people of any particular region. In this regard the DBSA targets municipalities who need assistance not only with financing, but also with the actual delivering of infrastructure.

**BEPEC (Built Environment Professions Export Council)**

Previously known as the International Business Development Section (IBDS), BEPEC was created in 2001 in response to the globalisation of the consulting engineering sector. Consulting Engineers South Africa (CESA), the South African Institute of Architects (SAIA) and the Association of South African Quantity Surveyors (ASAQS) were instrumental in BEPEC’s creation.

After the Architectural and the Quantity Surveying professions joined the organisation in 2008, the IBDS was transformed into BEPEC. The Association of Construction Project Managers (ACPM) is also now part of BEPEC.

BEPEC is a Section 21 non-profit organisation in Public Private Partnership (PPP) with the South African Department of Trade and Industry (DTI). It provides support to export-ready firms to export their built environment services internationally, offering a one-stop-shop for international clients who are in the market to employ South African built environment professionals.

**DBSA**

DBSA, PO Box 1234, Halfway House, 1685
T: 011 313 3911, F: 011 313 3086
W: www.dbsa.org
Headway Hill, 1258 Lever Road, Midrand

**AFDB (African Development Bank)**

The African Development Bank is a regional multilateral development bank, engaged in promoting the economic development and social progress of its regional member countries (RMCs), thus contributing to poverty reduction. As the continent’s premier development finance institution offering a knowledge and research centre, it is the preeminent voice for African development issues. The bank mobilises and allocates resources for investment in RMCs, and provides policy advice and technical assistance to support development efforts.

**BEPEC**

BEPEC, PO Box 68482, Bryanston, 2021
T: 012 362 0522, F: 086 668 7880
E: info@bepec.co.za, W: www.bepec.co.za
7 First Street, Menlopark, Pretoria, 0081

**Sanral (South African National Roads Agency Limited)**

Sanral is registered in terms of the Companies Act as an independent statutory company, belonging to the South African government and represented by the Minister of Transport. SANRAL’s mandate is to maintain, develop and manage the national road network of South Africa. Prime examples of SANRAL’s execution of this mandate is the Maputo Development Corridor, and the extensive Gauteng Freeway Improvement Project. The CEO of SANRAL, Nazir Alli, is a civil engineer and a Fellow of SAICE.

**WORLD BANK**

The World Bank, PO Box 12629, Hatfield, 0028
T: 012 742 3100, W: www.worldbank.org
442 Rodericks Street, Lynnwood Road, Tshwane, 0081

**CREDITS**

We acknowledge with appreciation that some of the information in this article was taken from the websites of the various bodies discussed. Please see the contact details underneath each body for the relevant website address. We also acknowledge with thanks the assistance received from senior staff members of these bodies.

The World Bank Group comprises the following five institutions managed by their member countries:

- International Development Association (IDA)
- International Bank for Reconstruction and Development (IBRD)
- International Finance Corporation (IFC)
- Multilateral Investment Guarantee Agency (MIGA)
- International Centre for Settlement of Investment Disputes (ICSID)

These support a wide array of investments in areas such as education, health, public administration, infrastructure, financial and private sector development, agriculture, and environmental and natural resource management.
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3 – The world according to SAICE

Discipline-specific bodies

This article concentrates on a number of discipline-specific bodies that SAICE liaises with, including some of the discipline-specific voluntary associations that were listed on page 13.

SAICE (South African Institution of Civil Engineering)

WE PLACE OURSELVES in this group of bodies for the sake of completeness, and also for the benefit of those readers who are not familiar with our Institution and would like to read about us in context. SAICE, whose forerunner was established in 1903, represents the civil engineering profession in South Africa, and is a voluntary association with approximately 10 000 members. The Institution provides technical leadership in support and enhancement of poverty alleviation, sustainable development, and the development and maintenance of infrastructure. Its specialist divisions include water engineering, transportation engineering, railway and harbour engineering, geotechnical engineering, structural engineering, environmental engineering, information technology, and project and construction management. SAICE has a worldwide liaison network and links with many international bodies. There are also numerous local and international bodies that are specifically associated with our various technical divisions, such as the Geosynthetics Interest Group of South Africa (GIGSA), the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), the Institute of Waste Management (IWM), the International Commission on Large Dams (ICOLD), and so forth. More information on these bodies is available via our technical divisions, but we will expand on these and similar bodies in future editions.

SAICE also distributes the GCC 2010 (General Conditions of Contract, which now also cover electrical and mechanical works), the ECS (Engineering Contract Strategies), and acts as agent for books from Thomas Telford and ASCE (American Society of Civil Engineers).

SAI MechE (South African Institution of Mechanical Engineering)

SAI MechE, which was established in 1892, is the senior body representing the discipline of mechanical engineering in South Africa. It covers all fields of application as diverse as automobile, energy generation, process engineering, heavy manufacture, design, management, research, mining, and education. SAI MechE is a voluntary association of mechanical engineers, technologists and technicians who have access to various grades of membership and the associated benefits. The SAI MechE objectives are:

- to advance the science, art and practice of mechanical engineering
- to promote and maintain high standards in the profession of mechanical engineering

The SAI MechE motto is ‘Scientia Progredimur’ – ‘By Knowledge We Advance’.

SAIEE (South African Institute of Electrical Engineers)

SAIEE, which celebrated its centenary in 2009, represents all aspects of electrical engineering in South Africa, such as tele-communications, power infrastructural services, electronics, measurement and control, mining, and related sub-disciplines.

SAIA (South African Institute of Architects)

SAIA is a professional voluntary association of affiliated and regional institutes. SAIA is a member of the Africa Union of Architects, the Commonwealth Association of Architects, the International Union of Architects, the International Council on Monuments and Sites, and the International Committee on the Documentation and Conservation of buildings, sites and neighbourhoods of the modern movement. Membership of the Institute is open to all professional, candidate and retired architects. SAIA and the regional institutes are committed to maintaining the highest standards of professionalism, integrity and competence to enhance the design and development of the built environment.

CESA (Consulting Engineers South Africa)

CESA is a voluntary association representing consulting engineering firms of all disciplines. It is also a member of the International Federation of Consulting Engineering (FIDIC). CESA promotes the business interests of some 490 firms which employ in excess of 22 000 staff members and which approximate a fee income of R17 billion. The association therefore represents considerable capacity and probably accounts for 80 – 90% of the consulting engineering sector in South Africa. It promotes the interests of its members and their clients by (among other things):

- publishing documents relevant to the profession
- acting as agent for FIDIC publications
- providing advisory notes and guidelines on professional practice matters
- organising relevant seminars, workshops and conventions
IPET (Institute of Professional Engineering Technologists)

IPET strives to improve the image and status of professional engineering technologists of all disciplines by representing them, and promoting matters affecting them, on a national and international basis. IPET determines the standards for the registration and education of professional engineering technologists through its representation at the Engineering Council of South Africa, consulting with and providing ECSA with information and advice on all matters affecting engineering technologists. IPET members get a discount on their ECSA registration fee higher than their annual IPET membership fee.

IPET promotes the education and training of engineering technologists through liaison with educational institutions and employers, and encourages continuing professional development amongst its members. It promotes and rewards academic achievement among B-Tech students of all engineering disciplines by annually awarding IPET medals to the highest academic achievers at all the universities of technology in South Africa, also encouraging gender equity with special medals for the highest achieving female students.

Because IPET strives towards a unified engineering profession, the Institute actively pursues communication and liaison with other societies who have engineering technologists amongst their members. IPET is the home for professional engineering technologists of all engineering disciplines in South Africa.

SAAE (South African Academy of Engineering)

The South African Academy of Engineering is a non-profit, independent institution which promotes excellence in the science and application of engineering for the benefit of the South African nation. The Academy comprises South Africa’s most eminent engineers of all disciplines, and related professionals with proven ability and achievement, and draws on their wealth of knowledge and experience to achieve the Academy’s main objective – providing expert advice on matters pertaining to global competitiveness and quality of life for the nation. Election to the Academy is by invitation. The activities of the Academy include:

- Providing a forum for discussions on issues relevant to the formulation of public policies for engineering-based activities
- Organising projects, symposia, meetings and discussions to make best possible use of the multi-professional expertise of its Fellows in support of national goals
- Promoting the innovative application of engineering in South Africa to improve the quality of life of its people
- Promoting the recruitment, education and training development of engineering and technical persons from previously disadvantaged groups to increase the technological base of the nation
- Enhancing excellence and innovation in the South African industry by participating in the Annual Technology Top 100 President’s Awards

- Establishing and maintaining relations with overseas engineering academies and the International Council for Engineering and Technological Sciences (CAETS).

SAFCEC (South African Federation of Civil Engineering Contractors)

SAFCEC uses its various areas of expertise to promote quality civil engineering construction. The Federation’s legal and economic expertise, for example, ensures that members not only remain informed about matters such as procurement, industrial relations, and contractual obligations, but also stay abreast with legislative developments affecting the civil engineering construction environment. SAFCEC’s ability to provide economic and market forecasts is extremely valuable to civil engineering contractors.

MBSA (Master Builders South Africa)

The MBSA is a national organisation speaking on behalf of its members, which are the various Master Builder Associations and Affiliate members. The MBSA operates as a federation of registered employer organisations, representing contractors and employers in the building industry.

SABTACO (South African Black Technical and Allied Careers Organisations)

SABTACO was founded in 1990 and has grown into a body currently representing thousands of members (students, graduates, practitioners, technicians) country-wide in the engineering and science disciplines. SABTACO’s vision is to be a leader in advocating and ensuring the advancement of black professionals in the built environment and allied fields, and the optimal realisation of the skills potential in South Africa. It is therefore the mission of SABTACO to:

- Lead the transformation of the built environment and related technical fields in such a manner as to reflect the commitments of the relevant charters and the BBBEE codes
- Facilitate the creation of an environment that is conducive to the development of science and engineering skills in the historically disadvantaged communities
- Increase the level of participation of black professionals and service providers in the mainstream economy.
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**ASPASA**
Contact Nico Pienaar on
Tel: +27 11 791 3327
Cell: 083 419 0010
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or nico@aspasa.co.za

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**Aggregate and Sand - Shaping the Future**
TCI (The Concrete Institute)
A newly constituted industry body, The Concrete Institute (funded by AfriSam, Lafarge and new cement producer Sephaku) will continue the valuable services provided by the Cement & Concrete Institute (C&CI), which closed down in April this year after 75 years of service to the industry, following the withdrawal of funding from some key funding members.

The C&CI played an invaluable role in promoting the interests and general advancement of the cement and concrete industries as a whole in southern Africa, and its closure prompted many industry voices to lament the loss of this important knowledge repository. Its value lay in the fact that the C&CI was an industry body that represented the entire industry, and the information it disseminated and the position that it represented were completely independent and professional and in no way biased in favour of the cement producers or a particular supplier.

It is hoped that The Concrete Institute will play a role in bringing together other representative bodies in the built environment to present a more united front to government, thereby ideally enabling faster delivery of infrastructure projects at all levels – municipal, provincial and national.

Under the leadership of Bryan Perrie, the former MD of the C&CI, The Concrete Institute is now offering most of the services previously provided by the C&CI, including the training centre and training laboratory, an information centre and library, consulting services and publications, as well as a free advisory service.

All the courses offered by the former C&CI’s School of Concrete Technology 2013 Training Programme are being offered by The Concrete Institute, which has also taken over the running of the Advanced Concrete Technology course, which was under way when the C&CI closed down.

CMA (Concrete Manufacturers Association)
The CMA represents the precast concrete industry and focuses on growing the market for precast concrete. Products include precast concrete masonry, concrete block paving, concrete roof tiles, concrete retaining blocks, precast floor slabs, and precast concrete masonry, concrete block paving, concrete road curbs, and precast concrete masonry, concrete block paving, concrete road curbs.
The CMA’s main focus is on ensuring that its members’ products are applied correctly. A CMA mark guarantees quality.

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CMA

CMA, Postnet Suite 8612, Private Bag X32, Kempton Park, 1620
T: 011 805 6742, F: 086 524 9216, E: admin@cma.org.za, W: www.cma.org.za
16 Horn Street, Chloorkop, Kempton Park

CSSA (Concrete Society of Southern Africa NPC)
The CSSA, a voluntary association recognised by ECSA, promotes excellence and innovation in the use of concrete and related products and services. The Association also provides a forum for networking and technology transfer between its members and international affiliates. It hosts the well-known Fulton Awards every second year to reward excellence in concrete construction.

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CSSA

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E: info@concretesociety.co.za, W: www.concretesociety.co.za
Suite 301, The Hillside, 318 The Hillside Street, Lynnwood, Pretoria

ASPSA (Aggregate and Sand Producers Association of Southern Africa)
ASPSA is a voluntary producers association that helps to improve the quality of aggregates produced by its member companies for construction projects around the country, building our country one stone at a time, so to speak.

ASPSA’s role is critical considering that almost every structure made by man relies on aggregates for strength and stability. Construction aggregates are in fact the primary ingredients of all concrete structures and foundations (80% of concrete is aggregate), as well as being the single most important ingredient used to build roads (94% of a road is aggregate).

Aggregates and sands used in construction projects are naturally occurring minerals that are mined by a specialised sector of the mining industry in South Africa mainly from quarries. Government strictly regulates sand and aggregate quarries due to the importance of obtaining a reliable supply of quality materials. It also aims to ensure that the minerals and materials are removed in a manner that is sustainable and protects the rights of workers, as well as the environment and surrounding communities.

ASPSA’s focus remains largely on creating an environment that is fair and equitable, and gives their members space to manoeuvre and make a good living. On the other hand ASPSA requires its members to comply with all relevant legislation, as well as to uphold the strictest standards in quality, health, safety and environmental issues. Annual audits are in place to assist members to achieve set requirements, and also to ensure that they comply with the relevant legislation.

The quarries represented by ASPSA (around 130) work closely with the government and with the Chamber of Mines, and are able to give input on a wide spectrum of legislation that affects the industry, including input on critical issues surrounding the environment, and health and safety matters.

These important issues are represented through expert committees with senior and knowledgeable specialists serving to give informed input on all matters. Through these committees programmes are developed to assist the industry to meet development objectives and improve the overall standards on member mines. (See ASPSA advert on page 27 for more information.)

ASPSA

ASPSA, PO Box 1983, Ruimsig, 1732
T: 011 781 3327, F: 086 647 8034, E: nico@aspasa.co.za, W: www.aspasa.co.za

WISA (Water Institute of Southern Africa)
WISA keeps its members informed about the latest national and international developments in water technology and research, and provides a forum for the exchange of information and views to improve water resource management in South Africa.

WISA

WISA, PO Box 6011, Halfway House, 1685
1st Floor Building 5, Constantia Park 546, 16th Road, Randjespark Ext 7, Midrand
SANCOT (South African National Committee on Tunnelling)
SANCOT is an interest group within the South African Institute of Mining and Metallurgy (SAIMM). Members of the Committee collate information on both civil and mining tunnelling. SANCOT was originally established as a result of the extensive infrastructure developments during the late 1960s, such as the Orange River Project and the Hex River Valley Tunnel. SANCOT was also a founding member of the International Tunnelling Association. Due to the decrease in tunnelling in South Africa from around 2003, SANCOT reformed first into a committee of the SAIMM, and later into the current interest group within the SAIMM.

SANCOT
SANCOT, c/o SAIMM, PO Box 61127, Marshalltown, 2107
T: 011 834 1273/7, F: 011 838 5923
E: julie@saimm.co.za, W: www.saimm.co.za/sancot

5th Floor, Chamber of Mines Bldg, 5 Holland Street,
cnr Sauer & Marshall, Johannesburg

SAPPMA (Southern African Plastic Pipe Manufacturers Association)
Launched in 2004, SAPPMA is an association of leading companies in the plastic pipe manufacturing industry in South Africa. The vision of the Association is to create absolute quality, trust and integrity throughout the value chain of the southern African plastic pipe industry, hence all its objectives are in line with this. Pipes produced by member companies carry the registered SAPPMA logo. SAPPMA is a voluntary association registered as a Section 21 Company and is affiliated to Plastics SA.

SAPPMA
SAPPMA, Private Bag X68, Halfway House, 1685
E: admin@sappma.co.za, W: www.sappma.co.za
18 Gazelle Avenue, Corporate Park, Midrand

SAISC (Southern African Institute of Steel Construction)
The main aim of the SAISC is to promote the effective use of steel in construction, thereby contributing to the development of the steel construction industry in South Africa. For more than 50 years now the Institute has been involved in education, industry development, market development, sponsoring research, export promotion and disseminating information. As a centre of knowledge it is the principal source of advice on all aspects of the use of steel in construction. (See SAISC advert on page 31 for more information.)

SAISC
SAISC, PO Box 291724, Melville, 2109
T: 011 726 6111, F: 011 482 9644, E: info@saisc.co.za, W: www.saisc.co.za
1st Floor Block C, 43 Empire Road, Parktown West, Johannesburg

SEWPACKSA (Small Wastewater Treatment Works Suppliers Association)
SEWPACKSA was established in 2010 and its main objectives are:

- To provide a unified non-governmental representative body of suppliers of package plants in the country to create a sustainable and self-regulated industry.
- To create a sustainable, self-regulated package plant industry that can treat wastewater onsite in remote areas, or where authorities do not provide sewer connections, or where additional capacity to the wastewater treatment facilities of various government bodies is required, whilst complying with legislative requirements for discharged water quality.
- To enable the supply of compliant package plants and management services of such package plants on the basis of best corporate governance practice and a code of ethics as adopted by the Association.

SEWPACKSA
Contact: Debbie Besseling (PR and Administration)
T: 084 371 7190, E: liaison@sewpacksa.co.za, W: www.sewpacksa.co.za

SANCOLD (South African National Committee on Large Dams)
SANCOLD was established in 1965 to represent South Africa on the International Commission on Large Dams (ICOLD). Since then it has broadened its activities to create and promote an awareness and understanding amongst South Africans of the role of dams in the beneficial and sustainable development of South Africa’s water resources. Its primary technical role is to advance the knowledge and skills relating to the science and art of the planning, design, construction, management, operation, maintenance, rehabilitation and decommissioning of dams amongst its members in a safe, financially sound, ecologically and socially sustainable manner. SANCOLD provides forums for local and regional interaction between interested participants in the dam industry. SAICE has one of the four reserved positions on SANCOLD’s Management Committee. SANCOLD is in the process of bidding to host the ICOLD Annual Meeting in 2016 in South Africa.

SANCOLD
SANCOLD, PO Box 3404, Pretoria, 0001
T: 012 460 9100, F: 012 336 8561,
E: secretary@sancold.org.za, W: www.sancold.org.za

SAPMA, established more than 60 years ago, has as its objective the promotion of the coatings industry as a responsible supplier of products and services beneficial to the country. SAPMA’s manufacturing members produce more than 90% of the volume of paints and coatings manufactured in South Africa. In its quest to remove all harmful leaded paint from South Africa, SAPMA is now also attracting an increasing number of retailers and contractors as members. The Association, through its training arm, SA Paint Industry Training Institute (SAPITI), provides a wide range of paint technology courses.

SAPMA
SAPMA, PO Box 751605, Gardenview, 2047
T: 011 455 2503, F: 086 623 5121
E: sapma@sapma.org.za, W: www.sapma.sapma.org.za
Building No 1, AMR Office Park, 201 Concorde Road East, Bedfordview

SAF (South African Foundation for the Protection of the Environment)
SAF was founded in 1977 by the late Mr. J. B. Treadway, M.B.E., to promote a sense of responsibility in the community to look after the natural environment. SAF is a not-for-profit organisation and is registered as a Section 21 Company. SAF seeks to improve the quality of the country’s environment through awareness, education and training.

SAF
SAF, PO Box 8, Bryanston, 2011
T: 011 826 3234, F: 011 826 3235
E: info@safoundation.org.za
W: www.saenvironment.org.za
5th Floor, Chamber of Mines Bldg, 5 Holland Street,
SEIFSA (Steel and Engineering Industries Federation of South Africa)

SEIFSA is a national employer federation representing the metal and engineering industry, and acts as the umbrella body for 26 leading independent employer associations in this diverse field. For 70 years, SEIFSA has provided active support for employer associations and lobbied for policies that have improved the business environment in which its members operate.

SEIFSA is the recognised voice of the metal and engineering industry, and its management team represents employers’ associations, and a number of organisations that are critical to the success of the industry. Through its membership of these national bodies, SEIFSA has over the years strived to positively influence legislation and policy affecting labour relations, skills development, and economic and trade matters.

At industry level, SEIFSA negotiates collective agreements covering wages and conditions of employment for both industries as well as up-skilling of artisans. Apprenticeships include electricians, advanced training in both apprenticeships, and learnerships, as well as the provision of information and development of standards, providing education and training, and promoting sustainability in road provision, operations and in the roads sector in general.

SEIFSA’s state-of-the art FUNDI training centre (established in 1982) is geared to provide apprenticeships in nine key trades for a career in the sector, and offers basic, intermediate and advanced training in both apprenticeships, and learnerships, as well as up-skilling of artisans. Apprenticeships include electricians, fitters and turners, instrument mechanics, boilermakers, welders, millwrights, and tool, jig and die makers, to name a few.

Awarded the best practice artisan training programme in the country, FUNDI is fully accredited by MerSETA, CHIETA and EW-Setam and hosts more than 30 private companies with every intake. This year FUNDI topped an intake of 250 apprentices, 15% of whom are women.

SEIFSA continues to support this vital training need and provides 10 bursaries each year to applicants from disadvantaged communities. Intake dates for 2014 are on 7 January, 1 April, 23 June and 15 September respectively.

IMESA (Institute of Municipal Engineering of Southern Africa)

IMESA is a voluntary association of engineering professionals and associates who aim to better the quality of life of all citizens through infrastructure engineering excellence at local government level. IMESA also advises municipal councils on municipal engineering matters and serves the broader community through representation on various bodies where it provides input from the municipal engineer’s perspective.

SABITA (Southern African Bitumen Association)

SABITA is a non-profit organisation that represents producers and applicators of bituminous products, consulting engineers and educational institutions. SABITA promotes best practice in the use and application of bituminous materials, as well as in worker safety and environmental conservation. The Association has an education and training role, and also liaises with government on the value of road provision and preservation.

SARF (South African Road Federation)

SARF is an association of members formed to represent their interests by being recognised as a body representative of the roads industry. SARF serves its members in all the regions of South Africa through its regional branches. The SARF constitution articulates its aims and objectives and provides guidance and empowers SARF to promote the interests of their members through: influencing of government policies and legislation to promote safe and economic transport of people and freight by road, dissemination of information and development of standards, providing education and training, and promoting sustainability in road provision, operations and in the roads sector in general.

SARMA (Southern Africa Readymix Association)

SARMA represents reputable readymix concrete companies and promotes readymix concrete in order to establish it as the preferred construction material. Established to regulate the readymix industry, SARMA aims to advance industry technology.
This family is one of the lucky ones! He, the breadwinner, has a ‘decent’ job in the steel construction industry. Many, many other South African families are not so lucky because of the high level of importation of structural steel from abroad that could easily have been bought from a competitive local company.

Remember, for every 1000 tons of structural steel you import you steal 100 jobs from ordinary South Africans. Don’t steal. Buy South African steel.
through research and participation, and develops industry standards that promote the use of readymix concrete.

The advent of readymix concrete several decades ago has transformed the construction industry, making widespread use of concrete more viable than ever before. Construction is easier and far faster now, with better quality, more workable concrete being available on site whenever and wherever it is needed. Construction firms have therefore become increasingly reliant on suppliers to provide concrete for everything from waterways, to roads and a wide variety of other construction projects.

All SARMA members are subject to stringent annual plant audits to ensure compliance with the SARMA Health and Safety, Quality and Environmental Standards. Considering the size and number of mixer trucks, road safety standards also form an integral part of the annual audits.

To counter unscrupulous producers who supply inferior quality readymix, engineers are urged to work with SARMA to formulate strategies which will ensure access to the highest quality concrete.

As yet there is nothing stopping construction firms from using non-SARMA accredited suppliers, but moves are afoot for the formulation of formal agreements which would specify that readymix concrete may only be supplied by companies accredited by SARMA. (See SARMA advert on page 27 for more information.)

**NSTF (National Science and Technology Forum)**

The NSTF is a non-governmental organisation that was established in 1995 with the cooperation of the Department of Science and Technology. Its membership mainly consists of organisations, and it represents wide-ranging expertise and experience in the SETI (Science, Engineering, Technology and Innovation) community. SAICE has been a member for many years, and has been particularly active in proSET, which was preceded by SETAG (Scientific, Engineering and Technological Societies and Allied Professions Group of South Africa) – SAICE chaired this group for a number of years.

The main aims of the NSTF are to deliberate and share information and to provide a common platform to:

1. Influence the development and implementation of public SETI policies.
2. Contribute towards the renewal of SETI systems through youth interventions.
3. Celebrate, recognise and reward excellence within the SETI sector.

The NSTF comprises the following sectors:

- Science councils and statutory bodies
- Small, medium and large business and state utilities
- Civil society and labour
- Higher education sector
- Government sector
- Professional bodies and learned societies. The professional bodies and learned societies are represented by proSET (Professionals in Science, Engineering and Technology), a sector of the NSTF consisting of professional bodies and learned societies. proSET represents more than 40 organisations, institutes and associations who themselves represent professionals in various specialised science, engineering and technology (SET) fields. Notable amongst the membership are professionals in various branches of engineering, as well as educators specialising in science, technology and mathematics education and research.

proSET has a particular interest in the issues listed below, and engages in discussion and debate around these, playing a role by lobbying among stakeholders:

- Regulatory issues affecting professionals in SET, including the Green Building Environment
- Setting and maintaining standards of safety, health, environmental sustainability, and quality
- Opportunities for Research and Development and Innovation in industry
- Opportunities for support and funding of research in SETI
- Career development and career paths for science/engineering graduates and professionals
- Accreditation of professionals – professional registration, including Codes of Ethics
- Encouraging mobility of professionals from other countries to study and work in South Africa and vice-versa
- The quality, accessibility and promotion of school-level education in Science, Technology, Engineering and Mathematics.

**SAPI (South African Planning Institute)**

SAPI is a recognised voluntary association which seeks to promote planning as a discipline, advance planning in society, and promote the interests of its members, who are persons engaged in the planning profession. It provides town and regional planners, and the planning profession with a profile, identity and voice in South Africa and internationally. It provides a platform for planners to share knowledge and debate critical issues affecting planning and development, and offers the opportunity for cooperation between planners and other disciplines to achieve an effective contribution to the wellbeing of society and the creation and shaping of transformed, sustainable settlements.

The Institute is made up of members from all regions of South Africa, and from all sectors, including all three spheres of government, private practitioners, academia, and civil society bodies. Members are served via regional branches and directly from the SAPI National Office.

**CREDITS**

We acknowledge with appreciation that some of the information in this article was taken from the websites of the various bodies discussed. Please see the contact details underneath each body for the relevant website address. We also acknowledge with thanks the assistance received from senior staff members or office bearers of these bodies.
INTERNATIONAL BODIES

INTRODUCTION

The history of SAICE’s international involvement is worth repeating briefly.

The institution’s networking on an international level took off in 1994 during the ASCE (American Society of Civil Engineers) convention in Atlanta when a SAICE delegation was invited to attend the annual ASCE International Round Table. During that visit SAICE’s President and Executive Director at the time, Brian Bruce and Dawie Botha respectively, not only had the opportunity to network with engineering institutions from across the world, but for the first time ever they met African colleagues. They returned inspired and eager to start an African Round Table, similar to the ASCE model. From this idea sprung the Africa Engineers Forum (AEF) as it was known until recently (now SAFE – see page 35). During subsequent years ASCE and SAICE have liaised on various matters and have developed a strong and fruitful relationship that benefits both institutions. Other relationships with other international engineering bodies followed, to the extent that SAICE is today not only contributing meaningfully to the world engineering scene, but receiving international visitors on a regular basis, all to the benefit of SAICE’s members. In addition, those first steps into the global engineering village created the platform for a strong African voice and led to SAICE being utilised by a number of organisations and initiatives to roll out internationally funded programmes on behalf of the then AEF, also to the benefit of the South African Development Community (SADC).

SAICE’s International Panel guides the Institution’s involvement in international activities. During 2012/2013 SAICE’s networking on an international level was indeed developed to further heights, and information about events, activities and new developments is included under the relevant headings below. Also look out for the January-February 2014 edition of our magazine, which customarily focuses on international issues, for more news.

WFEO (World Federation of Engineering Organisations)

This multi-disciplinary engineering organisation was established in 1968 and was formed under the auspices of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). A close relationship still exists. It currently represents engineering organisations from approximately 90 nations, and as such around 15 million engineers. Over the past 10 years the WFEO has gained considerable acceptance and status, thereby facilitating as a strong and united voice for engineering. It promotes communication and cooperation, develops internationally agreed policies, and promotes interaction with the United Nations. It plays a major role in issues concerning sustainability and anti-corruption, and a series of committees have been addressing issues such as Education and Training, the Environment, Information Technology, Energy, Capacity Building and Technology.

The WFEO membership includes National members in terms of which ECSA (Engineering Council of South Africa) represents the South African engineering profession. International members, like the FAEO (Federation of African Engineering Organisations), that represent regional engineering groups, and Associate members, that have no voting rights. The current President of the WFEO is Marwan Abdelhamid.

Christopher Campbell, who is also a SAICE Fellow, chairs the WFEO Committee on Engineering Capacity Building (CECB). SAICE contributed hugely to a guideline book and compendium of programmes for capacity building, which were launched in October 2010 at the WFEO Executive Meeting in Buenos Aires, and distributed further during 2012/13 (available on the various websites of the WFEO family of organisations).

At the WFEO Convention in Geneva in September 2011, it was decided that ECSA would host the CECB workshop in South Africa for the next few years, with the assistance of SAICE – indeed a big scoop for the South African engineering community.

More WFEO-SAICE news is that SAICE Vice-President Tom McKune, and Oliver Rowe, chair of the SAICE Young Members Panel, were trained as trainers in a WFEO anti-corruption initiative some time back. The training material was validated by the SAICE Education and Training Panel.

WFEO

Ms Tahani Yousef
Executive Director: WFEO
Maison de l’UNESCO
1, rue Miollis, 75015 Paris, France
T: 33 1 45 68 46 47, F: 33 1 45 68 48 65
E: executivedirector@wfeo.net, W: www.wfeo.net

UNESCO (United Nations Educational, Scientific and Cultural Organisation)

UNESCO was founded on 16 November 1945 and, in addition to dealing with the issues described in its name, sees itself as striving towards a higher purpose, namely “building peace in the minds of men”. After World War II this goal was obviously of great importance. UNESCO currently promotes cooperation among its 190-odd member nations by mainly focusing on respect, values and the dignity of each civilisation and culture. The organisation is actively pursuing the Millennium Development Goals by means of its strategic activities.

SAICE has been contracted several times by UNESCO to execute programmes in the form of workshops aimed at issues like “Engineers and the Alleviation of Poverty”. A further
initiative concerns a feasibility study to ascertain whether a mini Numbers-and-Needs study would be appropriate for selected African countries, following the example of the SAICE Numbers and Needs developed by Allyson Lawless and her team. This initiative has the support in principle of the South African Minister of Science and Technology. Tony Marjoram, who manages the engineering section of UNESCO, has played a major role in facilitating interaction with SAICE. Prof Brian Figaji of South Africa has, in addition, been playing an important and valuable role as the chair of the National Commission for UNESCO.

The UNESCO Engineering Report, which was published in 2010, contains views from engineers in approximately 50 chapters. SAICE contributed to important sections of this publication.

Moves are under way towards the establishment of the UNESCO Engineering Initiative that will focus on building capacity in various formats to bring together engineering capacity from all of the existing organisational units, and to mobilise partnerships with engineering bodies such as the WFEO.

UNESCO
UNESCO, 1 Rue Miollis, 75732 Paris Cedex 15, France
T: 33 1 4568 1000, W: www.unesco.org

CEC (Commonwealth Engineers’ Council)
The CEC promotes cooperation among the engineering organisations situated in the former British colonies. It has recently been transformed into a virtual organisation that is facilitated by the provision of a secretariat by the ICE. ECSA is the South African member of the CEC and SAICE interacts with the CEC from time to time.

CEC
CEC, One Great George Street, London SW1P 3AA, United Kingdom
T: 44 20 7222 7722 F: 44 20 7223 1806
W: www.ice.org.uk/cec

WCCE (World Council of Civil Engineers)
The WCCE was established in 2005. Prof Jose Medem, a former WFEO President, was one of the first presidents of the WCCE, and has visited South Africa on several occasions, building a lasting relationship with SAICE. The civil engineering profession represents around 50% of engineering professionals and plays a vital role in delivering essential services world-wide. The WCCE goal therefore is to address issues specifically related to civil engineering on a global scale.

WCCE
WCCE, Colegio de Ingenieros de Caminos, Canales y Puertos (CICCP), C/ Almagro 42 28010 Madrid, Spain
T: 34 91 308 1988, F: 34 91 319 1531
E: 17jfs@ ciccp.es, W: www.wcce.net

FIDIC (International Federation of Consulting Engineers)
The members of FIDIC comprise consulting engineering organisations from various countries. FIDIC plays a leading role in addressing sustainability, organising anti-corruption campaigns, setting standards in consulting engineering, and interacting with the World Bank and other funding organisations and structures regarding procurement issues.

FIDIC
FIDIC, Box 311, CH-1215 Geneva 15, Switzerland
T: 41 22 799 4900, F: 41 22 799 4901
E: fidic@fidic.org, W: www.fidic.org
World Trade Center 2, Geneva Airport, 29 Route de Prés-Bois, Cointrin, CH-1215 Geneva, Switzerland

ICE (Institution of Civil Engineers)
ICE, the UK-based equivalent of SAICE, was established in 1818 and as such set the norm for learned societies in engineering. It currently has 80 000 members around the world. Since the early nineties ICE and SAICE have been cooperating on many issues. The most important achievement to date has been that ICE facilitated international reciprocity agreements between itself, ECSA and SAICE, in terms of which South African civil engineering qualifications and professional status are recognised. ICE also facilitated the entry of ECSA into various international accords, including the Washington Accord and the Engineers Mobility Forum. Learned society activities between ICE and SAICE are currently managed by means of an agreement of cooperation. Regular meetings between the two institutions, facilitated by the ICE-SA Division, form part of their annual activities, and on several occasions the Brunel lecture has been presented in South Africa.

ICE
ICE, One Great George Street, Westminster, London, SW1X 8BH, United Kingdom
T: 44 20 7222 7722, E: secretariat@ice.org.uk, W: www.ice.org.uk

IstructE (Institution of Structural Engineers)
IstructE was originally established in 1908 as the Concrete Institute. Its focus is primarily on structural engineering and public safety within the built environment. It has more than 27 000 members in 105 countries around the world. SAICE and IstructE cooperate by means of an agreement, and through the Joint Structural Division of SAICE. In addition, courtesy visits to the IstructE management in London by the SAICE CEO take place on an annual basis.

IstructE
IstructE, 11 Upper Belgrave Street, London SW1X 8BH, United Kingdom
T: 44 20 7235 4535, F: 44 20 7235 4294
E: mail@istructe.org, W: www.istructe.org

ASCE (American Society of Civil Engineers)
ASCE was founded in 1852 and currently has a membership of more than 140 000 worldwide. It is a typical learned society for civil engineering professionals. In 1994 ASCE was the first international organisation to offer SAICE an agreement of cooperation. Its International Round Table (IRT) has over the years provided SAICE with a valuable platform for communication and networking.

SAICE has been attending these IRTs over many years and participated in several initiatives, including the ASCE
Vision 2025 strategic planning exercise, where SAICE’s input was mainly in terms of sustainability and providing a developing world perspective. Currently a number of initiatives between SAICE and ASCE, like ExCEd (Excellence in Civil Engineering Education), are either under discussion or envisaged. In 2008 the highlight of the ASCE Presidential visit to SAICE was the ASCE International Landmark Award for the Woodhead Dam on Table Mountain.

At the 2010 ASCE annual conference in Las Vegas, the Agreement of Cooperation was renewed for a fourth term of four years. SAICE attended ASCE’s 142nd conference in Montreal, Canada, during October 2012, which focused on "Civil Engineering in the Global Economy" where delegates could learn of and discuss the changes that are shaping the civil engineering profession worldwide.

**FAEO (Federation of African Engineering Organisations) and SAFEO (Southern African Federation of Engineering Organisations)**

In order to achieve engineering excellence and to create a better quality of life for all in Africa, leaders and representatives of engineering institutions in Africa held a General Assembly on 8 May 2012 at the Kenyatta International Conference Centre, Nairobi, Kenya, and unanimously agreed to establish a central united home for African engineering organisations in solidarity under the name Federation of African Engineering Organisations (FAEO). The organisational model of FAEO shall be made of:

- Central African Federation of Engineering Organisations (CAFEO)
- Eastern African Federation of Engineering Organisations (EAFEO)
- North African Federation of Engineering Organisations (NAFEO)
- Southern African Federation of Engineering Organisations (SAFEO)
- West African Federation of Engineering Organisations (WAFEO).

These various regional groups will work under the FAEO, which will then represent Africa at the WFEO, AU and any relevant international organisation. SAFEO represents southern Africa in COMESA, SADC, NEPAD and other regional bodies with engineering and sustainable development interests in southern Africa.

FAEO is therefore a young organisation and faces many challenges, but its members’ commitment and will to succeed are sure to let it grow into a strong and unifying organisation for all engineering practitioners in Africa.

Africa has huge economic potential, but it needs the necessary infrastructure to develop and sustain this potential. Infrastructure development should not only be inward-looking, but should be done on a regional basis, and eventually on a continental basis. In unity is strength, and it is engineering practitioners who must make sure that we develop an integrated road network, rail network, power network and telecommunications network.

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**Civil Engineering**

Apply now for commencement early in 2014

**Geotechnics Leader**

This opportunity will be of interest to a Civil Engineer with a minimum of 10 years post graduate experience, the bulk of which must have been gained with a recognised consulting engineer focusing on geotechnical engineering.

The successful applicant will be responsible for directing a geotechnical division providing a complete range of geotechnical advice and engineering solutions in the built environment.

**Package negotiable to R1 800 000**

Detailed information at: [www.edm.co.za/40370](http://www.edm.co.za/40370)

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**Senior Bridge Engineer**

This opportunity will be of interest to a Structural Engineer with a minimum of 10 years experience in the design and design management of bridge projects.

**Package negotiable to R1 500 000**

Detailed information at: [www.edm.co.za/40372](http://www.edm.co.za/40372)

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**Senior Rail Engineer**

This opportunity will be of interest to a Civil Engineer with a minimum of 15 years experience in the design management of rail projects.

**Package negotiable to R1 500 000**

Detailed information at: [www.edm.co.za/40375](http://www.edm.co.za/40375)

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**Geometric Design Engineer**

This opportunity will be of interest to a Civil Engineer with at least 5 years experience in geometric design and good understanding of SANRAL requirements.

**Package negotiable to R650 000**

Detailed information at: [www.edm.co.za/40377](http://www.edm.co.za/40377)

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**Pavement Engineer**

This opportunity will be of interest to a Civil Engineer with at least 5 years experience in pavement design and material selection and good understanding of SANRAL requirements.

**Package negotiable to R650 000**

Detailed information at: [www.edm.co.za/40380](http://www.edm.co.za/40380)

Applications will also be welcomed from persons who do not have the minimum years of experience detailed provided that they can demonstrate superior abilities in other relevant areas.

To discuss these opportunities in the strictest confidence contact Gary Drummond at EDM on (011) 462 2525.

Alternatively e-mail a detailed CV to gary@edm.co.za

To participate in the 2013 Civil Engineering Salary Survey, or to view the 2012 or 2013 results, visit the EDM website [www.edm.co.za](http://www.edm.co.za)

Specialising in civil engineering recruitment since 1993
One requirement for such integrated networks is that there are compatible standards and design codes. This will not be easy to achieve. The countries in Africa have a legacy from many different countries in Europe, and it will be a challenging task to align the codes and standards with one another.

For this purpose we need wise engineering practitioners. At university an engineer or technician acquires knowledge. Knowledge is information that is retained in the mind. Once working, an engineering practitioner gains the ability to apply the knowledge in practice, and thereby becomes competent to practise his/her profession. When experience is added to competence, then wisdom is achieved.

Training of engineering practitioners starts at school where they must gain sufficient competency in maths and physics to enter university. It then becomes necessary to ensure that the training at university is at a high level. However, all this knowledge comes to nothing if there is not a proper training and mentoring programme in place. The FAEO recognises that capacity building is the key to producing competent, experienced and wise engineering practitioners who will plan, design and build the required infrastructure that will make Africa great.

Engineering practitioners must conduct themselves with integrity and honesty. This is not always easy in an environment where corruption has become entrenched and almost institutionalised. Nonetheless this unpalatable fact, it is only when engineering professionals stand together that this can be overcome. The FAEO stands for integrity, and expects all its members to adhere to honourable conduct.

The FAEO has an African vision and must therefore rise above national and regional interests. The intention is to facilitate the establishment of an engineering corps that can truly serve the peoples of Africa.

SAFEO will promote and extend the exchange of technical, scientific and professional knowledge to better service the interests and welfare of engineering practitioners in member countries, as well as to encourage and support members to uphold and advance the integrity, honour and dignity of engineering in order to achieve the following outcomes:

- Excellence in engineering technology in Africa.
- Informed and intelligent decision-making about built environment infrastructure by all governments structures and private sector entities by utilising human capacity building orientation programmes and projects.
- A sufficient pool of competent professionals by and through:
  * offering and pursuing awareness and orientation programmes, projects and activities regarding the role of engineering and technology;
  * promotion of interest in mathematics and science at higher grades in primary and secondary schools;
  * offering career guidance programmes and activities;
  * promoting consistent investment mechanisms for infrastructure and promoting fair and reasonable remuneration for all engineering practitioners;
  * facilitating mentorship; and
  * offering continued professional development opportunities.
- Sustainable professional frameworks and organisational structures in Africa by:
  * creating permanent facilities and administrative mechanisms to support the Built Environment Profession’s activities and programmes.
  * An awareness relating to SAFEO activities in order to prepare the countries, their people and their decision-makers for the challenges of the future by:
    * utilizing the opportunities offered to enhance the image and raise the public awareness about the role and value of engineering and industry in particular, and engineering and the built environment in general.
  * Support the development of entrepreneurship in the engineering environment.

---

**SAFEO MEMBER COUNTRIES**

**Botswana**
Botswana Institute of Engineers BIE
Ms Linda Moseki – President
T: +267 31 2 395 7665
E: moseklinda@yahoo.com, linda.moseki@kmprojectm.co.bw, bie@botonet.bw

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Teboho Raithule
E: tebhopcivil@gmail.com

**Malawi**
Malawi Institute of Engineers MIE
Dr Matthews Mtumbuka – President
E: mcmtumbuka@yahoo.co.uk
T: +265 999 989 300
Eng Andrew Thawe – Vice-President
E: athawe@bwb.mw
T: +265 888 564 572
Mrs Elnas Chimdima – Executive Secretary
E: mw.engineers@gmail.com
T: +265 1 871 615 / +265 999 417 609

**Mauritius**
Institution of Engineers Mauritius IEM
Mr Claude Wong So – President
E: cwongso@intnet.mu

**Mozambique**
Ordem dos Engenheiros de Mocambique OrdEM
Eng Augusto de Sousa Fernando – President
T: +258 21 310463 / +258 82 3263740
Eng Abdul Razaque Fakir – Vice-President
T: +258 21 310 463 / +258 82 326 3740
Eunice Abreu, Secretary General
E: eumavao@gmail.com

**Namibia**
Engineering Professions Association of Namibia EPA
Ms Sophie Tekie – President
RedR International & RedR Southern Africa

RedR was established in the UK in 1980 and its name refers to its mission, which essentially is to maintain a Register of Engineers for Disaster Relief and to provide training in this field. A local chapter has been established in South Africa and closer links between SAICE and RedR South Africa are being explored.

RedR International, 250 A Kennington Lane, London SE11 5RD, United Kingdom
T: 44 20 7766 0600, F: 44 20 7930 1549
RedR Southern Africa, PO Box 198, Rondebosch, 7701, Cape Town
T: 27 11 997 9013, F: 27 11 997 9001
E: info@redr.org.za, W: www.redr.org.za

RAE (Royal Academy of Engineering)

The Royal Academy of Engineering was established in 1976. On their website the RAE states that, “As Britain’s national academy for engineering, we bring together the country’s most eminent engineers from all disciplines to promote excellence in the science, art and practice of engineering. Our strategic priorities are to enhance the UK’s engineering capabilities; to celebrate excellence and inspire the next generation; and to lead debate by guiding informed thinking and influencing public policy”.

The RAE has strong links with the organised professions, including ICE and SAICE. Its links with SAICE enhances the RAE’s initiatives to facilitate the growth of professional engineering societies in Africa.

IEI (Institution of Engineers India)

The IEI offers Life Institutional Membership to engineering-related organisations and individuals throughout India. Any public or local body, registered company, or individual may therefore become a member of the IEI. In September 2012, while attending the congress of the World Federation of Engineering Organisations in Slovenia, SAICE and the IEI signed a Memorandum of Understanding, whereby both institutions confirmed their willingness to work together on international issues whenever deemed appropriate. Both organisations agree that this was an historic event and they look forward to a long and mutually beneficial association.

IEI

IEI

No 19, Chepauk 5 Swami, Sivananda Salai, Triplicane, Chennai, India
T: 91 44 6499 8729
E: intnl@ieindia.org
W: www.ieindia.org

EAP (Engineers Against Poverty)

EAP is a specialist NGO working in the field of engineering and development. SAICE signed a cooperation agreement with the EAP. Regular interaction therefore takes place between SAICE and EAP, and EAP takes part in a number of joint ventures where SAICE is represented.

EAP

2nd Floor Weston House, 246 High Holborn, London WC1V 7EX, United Kingdom
T: 44 20 3206 0488, F: 44 20 3206 0401
E: info@engineersagainstpoverty.org
W: www.engineersagainstpoverty.org

CREDITS

We acknowledge with appreciation that some of the information in this article was taken from the websites of the various bodies discussed. Please see the contact details underneath each body for the relevant website address.
DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING AND TECHNOLOGY
VAAL UNIVERSITY OF TECHNOLOGY

The Civil Engineering Department is a leader in innovative knowledge and offering quality technology education in civil engineering in line with the VUT vision.

The Civil Engineering department has achieved and will strive to maintain that achievement of the VUT mission of producing top quality employable and entrepreneurial graduates who can make an impact in society. The Civil Engineering Department has adopted cutting-edge technology, teaching methods, and created an environment that is conducive to learning. It has an innovative and dynamic Programme and Qualification Mix Curricula that meets the needs of society in Southern Africa, Africa and beyond.

When looking for Students, Industrial and Community Partnerships, Work Integrated Learners, or Graduates in Civil Engineering, the Civil Engineering Department can comply based on the following programmes

- NDip: Eng: Civil
- BTech: Eng: Civil: (Water; Transportation; Urban; Structures)
- MTech: Engineering: (Water; Transportation; Structures)
- DTech: Engineering: (Water; Transportation; Structures)

*These programmes are accredited by ECSA.*

Career opportunities

Civil Engineering offers ample opportunity to attain job satisfaction and attractive financial rewards. Some past students from this Civil Engineering Department have senior positions at consulting engineering firms, construction companies, government bodies, local authorities and industry. Civil Engineering as a career is suitable for both men and women.

For more information contact

The administrator of Civil Engineering Department at:

Tel.: 016 950 9241
Fax: 016 950 9701
E-mail: patienceb@vut.ac.za
Website: www.vut.ac.za
## Tertiary institutions where civil engineering can be studied

(Check latest accreditation status on ECSA website: www.ecsa.co.za)

<table>
<thead>
<tr>
<th>INSTITUTION AND FACULTY</th>
<th>NAME OF DEPARTMENT</th>
<th>QUALIFICATIONS OFFERED</th>
<th>HEAD OF DEPARTMENT AND CONTACT DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EASTERN CAPE</strong></td>
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</tbody>
</table>
| Nelson Mandela Metropolitan University  
Faculty of Engineering, the Built Environment and Information Technology | Department of Civil Engineering  
North Campus | National Diploma in Civil Engineering  
BTEch Degree in:  
- Transportation Engineering  
- Urban Engineering | Mr Vincent Danoher  
T: 041 504 3077  
F: 041 504 3297  
E: vincent.danoher@nmmu.ac.za  
P: PO Box 77000,  
Port Elizabeth, 6031 |
| Walter Sisulu University  
Faculty of Science, Engineering and Technology | Department of Civil Engineering  
Buffalo City Campus, East London | National Diploma in Civil Engineering  
BTEch Degree in:  
- Transportation Engineering  
- Water Engineering | Mr Ivor Burke  
T: 043 702 9264  
F: 043 702 9320  
E: iburke@wsu.ac.za  
P: PO Box 1421,  
East London, 5200 |
| Walter Sisulu University  
Faculty of Science, Engineering and Technology  
Faculty Officer: Gwen Lindani  
T: 043 702 9257  
F: 043 702 9361  
E: glindani@wsu.ac.za | Department of Civil Engineering  
Ibika Campus, Butterworth | National Diploma in Civil Engineering | Mr Mbulelo Singata  
T: 047 401 6122 / 6322  
E: msingata@wsu.ac.za  
P: Private Bag X3182,  
Butterworth, 4960 |
| **FREE STATE**           |                    |                         |                                        |
| Central University of Technology, Free State  
Faculty of Engineering and Information Technology | School of Civil Engineering and Built Environment | National Diploma in Civil Engineering  
BTEch Degree in selected sub-disciplines of Civil Engineering | Prof Yali Woyessa  
T: 051 507 3452  
F: 051 507 3254  
E: ywoyessa@cut.ac.za  
P: Private Bag X20539,  
Bloemfontein, 9300 |
| **GAUTENG**              |                    |                         |                                        |
| University of Pretoria  
Faculty of Engineering, Built Environment and Information Technology | Department of Civil Engineering | BEng (Civil)  
BEng (Hons) and MEng in:  
- Geotechnical, Structural, Transportation, Water Resource Engineering  
- BSc (Hons) and MSc in:  
- Applied Sciences  
- PhD | Prof Elsabé Kearsley  
T: 012 420 2429  
F: 012 420 4722  
E: elsabe.kearsley@up.ac.za  
P: University of Pretoria,  
Pretoria, 0002 |
| Tshwane University of Technology  
Faculty of Engineering and the Built Environment | Department of Civil Engineering | National Diploma in Civil Engineering  
BTEch in seven sub-disciplines of Civil Engineering  
MTech in Civil Engineering  
DTech in Civil Engineering | Prof Julius Ndambuki  
T: 012 382 5225  
F: 012 382 5226  
E: ndambukijm@tut.ac.za  
P: Private Bag X680,  
Pretoria, 0001 |
<table>
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<tr>
<th>INSTITUTION AND FACULTY</th>
<th>NAME OF DEPARTMENT</th>
<th>QUALIFICATIONS OFFERED</th>
<th>HEAD OF DEPARTMENT AND CONTACT DETAILS</th>
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<tr>
<td><strong>GAUTENG (continued)</strong></td>
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</table>
| University of the Witwatersrand (Also see Wits University advert on page 18.) | School of Civil and Environmental Engineering | BSc Engineering (Civil) | Prof Mitchell Gohnert  
T: 011 717 7121 / 7125  
F: 011 717 7045  
E: mitchell.gohnert@wits.ac.za  
P: Private Bag 3, Wits, 2050 |
| Faculty of Engineering and the Built Environment | Department of Civil Engineering Science  
Auckland Park Kingsway Campus (APK) | B Ing (Civil Engineering) | Dr Felix N Okonta  
T: 011 559 2100 / 2342  
F: 011 559 2343  
E: civeng@uj.ac.za  
fnokonta@uj.ac.za  
P: PO Box 524, Auckland Park, 2006 |
| University of Johannesburg  
Faculty of Engineering and the Built Environment | Department of Civil Engineering Technology  
Doornfontein Campus | National Diploma: Engineering: Civil  
B Tech Degree in:  
- Transportation Engineering  
- Water Engineering  
- Structural Engineering  
- Construction Management  
MTech Degree in Civil Engineering Technology – full research option | Mr Cronjé Bruwer  
T: 011 559 6540  
F: 011 559 6057  
E: cbruwer@uj.ac.za  
P: PO Box 17011, Doornfontein, 2028 |
| University of South Africa (UNISA)  
College of Science, Engineering and Technology | Department of Civil and Chemical Engineering | National Diploma in Civil Engineering  
B Tech Degree in:  
- Urban Engineering  
- Environmental Engineering  
- Water Engineering  
- Structural Engineering  
- Construction Management | Prof Francois Ilunga  
T: 011 471 2791  
E: ilungm@unisa.ac.za  
P: Private Bag X6, Florida, 1710 |
| Vaal University of Technology (Also see Vaal UoT advert on page 38.)  
Faculty of Engineering and Technology | Department of Civil Engineering and Building | National Diploma in Civil Engineering  
B Tech Degree in:  
- Transportation Engineering  
- Water Engineering  
- Structural Engineering  
- Urban Engineering  
MTech in Civil Engineering  
DTech in Civil Engineering | Prof Maurice Ndege  
T: 016 950 9246  
F: 016 950 9957  
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P: Private Bag X021, Vanderbijlpark, 1099  
Administrator:  
Patience Buang  
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F: 086 612 8463  
E: patience@vut.ac.za |
| **KWAZULU-NATAL** |                    |                        |                                        |
| University of KwaZulu-Natal  
Faculty of Engineering | School of Civil Engineering, Surveying and Construction | BSc Engineering (Civil) | Prof Cristina Trois  
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F: 031 260 1411  
E: civilhos@ukzn.ac.za  
P: Centenary Building, Room 109  
University of KwaZulu-Natal  
Howard College Campus  
Durban, 4041 |
<table>
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<td><strong>KWAZULU-NATAL (continued)</strong></td>
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<tr>
<td>Durban University of Technology</td>
<td>Department of Civil Engineering and Surveying</td>
<td>National Diploma in Civil Engineering National Diploma in Surveying BTech Degree in: Transportation Engineering Water Engineering Structural Engineering Urban Engineering Construction Engineering MEng in Civil Engineering</td>
<td>Mr GM Hoosen T: 031 373 2886 E: <a href="mailto:hoosen@dut.ac.za">hoosen@dut.ac.za</a> P: PO Box 1334, Durban, 4000</td>
</tr>
<tr>
<td>Faculty of Engineering and the Built Environment</td>
<td>Steve Biko Campus Durban</td>
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<td></td>
<td>Department of Civil Engineering</td>
<td>National Diploma in Civil Engineering BTech Degree in: Transportation Engineering Water Engineering Urban Engineering Construction Management</td>
<td>Mr Tom McKune T: 033 845 8916 F: 033 845 8941 E: <a href="mailto:tom@dut.ac.za">tom@dut.ac.za</a> P: PO Box 101112, Scottsville, 3209</td>
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<td>Indumiso Campus Pietermaritzburg</td>
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<td></td>
<td>Department of Civil Engineering</td>
<td>National Diploma in Civil Engineering</td>
<td>Mr Jan van der Westhuizen T: 031 907 7223 F: 031 907 7208 E: <a href="mailto:jan@mut.ac.za">jan@mut.ac.za</a> P: PO Box 12363, Jacobs, 4026</td>
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<tr>
<td>Mangosuthu University of Technology</td>
<td>Department of Civil Engineering and Surveying</td>
<td>National Diploma in Civil Engineering National Diploma in Surveying</td>
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<td>Faculty of Engineering</td>
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<tr>
<td><strong>WESTERN CAPE</strong></td>
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<tr>
<td>University of Cape Town</td>
<td>Department of Civil Engineering</td>
<td>BSc (Eng) in Civil Engineering</td>
<td>Prof Neil Armitage T: 021 650 2589 F: 021 689 7471 E: <a href="mailto:neil.armitage@uct.ac.za">neil.armitage@uct.ac.za</a> P: Private Bag X3, Rondebosch, 7701</td>
</tr>
<tr>
<td>Faculty of Engineering and the Built Environment</td>
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<tr>
<td>Stellenbosch University</td>
<td>Department of Civil Engineering</td>
<td>BEng (Civil) MEng (Research) (Civil) MEng (Structural) (Civil) PhD (Civil Engineering)</td>
<td>Prof Gideon van Zijl T: 021 808 4436 F: 021 808 4440 E: <a href="mailto:gvanzijl@sun.ac.za">gvanzijl@sun.ac.za</a> P: Private Bag X1, Matieland, 7602</td>
</tr>
<tr>
<td>Faculty of Engineering</td>
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<tr>
<td>Cape Peninsula University of Technology</td>
<td>Department of Civil Engineering and Surveying</td>
<td>National Diploma in Civil Engineering National Diploma in Surveying and Cartography BTech Degree in: Transportation Engineering Water Engineering Urban Engineering Construction Management</td>
<td>Ms Ashaadia Kamalie T: 021 959 6650 F: 021 959 6660 E: <a href="mailto:kamaliea@cput.ac.za">kamaliea@cput.ac.za</a> P: PO Box 1906, Bellville, 7535</td>
</tr>
<tr>
<td>Faculty of Engineering</td>
<td>Bellville Campus</td>
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</tbody>
</table>
### Acronyms and abbreviations relevant to the engineering environment

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACPM</td>
<td>Association of Construction Project Managers</td>
</tr>
<tr>
<td>ACSA</td>
<td>Airports Company South Africa</td>
</tr>
<tr>
<td>ASCE</td>
<td>American Society of Civil Engineers</td>
</tr>
<tr>
<td>AsgiSA</td>
<td>Accelerated and shared growth initiative for South Africa</td>
</tr>
<tr>
<td>BBBEE</td>
<td>Broad-Based Black Economic Empowerment</td>
</tr>
<tr>
<td>BCEA</td>
<td>Basic Conditions of Employment Act</td>
</tr>
<tr>
<td>BEE</td>
<td>Black Economic Empowerment</td>
</tr>
<tr>
<td>CAD</td>
<td>Computer Aided Drawing</td>
</tr>
<tr>
<td>CBE</td>
<td>Council for the Built Environment</td>
</tr>
<tr>
<td>CEC</td>
<td>Commonwealth Engineers’ Council</td>
</tr>
<tr>
<td>CESA</td>
<td>Consulting Engineers South Africa</td>
</tr>
<tr>
<td>CETA</td>
<td>Construction Education and Training Authority</td>
</tr>
<tr>
<td>CHE</td>
<td>Council on Higher Education</td>
</tr>
<tr>
<td>CIDB</td>
<td>Construction Industry Development Board</td>
</tr>
<tr>
<td>CIETS</td>
<td>Construction Industry Education and Training Services</td>
</tr>
<tr>
<td>CIOB</td>
<td>Chartered Institute of Building</td>
</tr>
<tr>
<td>CMA</td>
<td>Concrete Manufacturers Association</td>
</tr>
<tr>
<td>CMIP</td>
<td>Consolidated Municipal Infrastructure Programme</td>
</tr>
<tr>
<td>CPD</td>
<td>Continuing Professional Development</td>
</tr>
<tr>
<td>CSIR</td>
<td>Council for Scientific and Industrial Research</td>
</tr>
<tr>
<td>CSSA</td>
<td>Concrete Society of Southern Africa</td>
</tr>
<tr>
<td>DBSA</td>
<td>Development Bank of Southern Africa</td>
</tr>
<tr>
<td>DEA</td>
<td>Department of Environmental Affairs</td>
</tr>
<tr>
<td>DoE</td>
<td>Department of Education</td>
</tr>
<tr>
<td>DoT</td>
<td>Department of Transport</td>
</tr>
<tr>
<td>DPLG</td>
<td>Department of Provincial and Local Government (now the Department of Cooperative Governance and Traditional Affairs)</td>
</tr>
<tr>
<td>DPW</td>
<td>Department of Public Works</td>
</tr>
<tr>
<td>DST</td>
<td>Department of Science and Technology</td>
</tr>
<tr>
<td>DTI</td>
<td>Department of Trade and Industry</td>
</tr>
<tr>
<td>DWA</td>
<td>Department of Water Affairs</td>
</tr>
<tr>
<td>EAP</td>
<td>Engineers Against Poverty</td>
</tr>
<tr>
<td>ECSA</td>
<td>Engineering Council of South Africa</td>
</tr>
<tr>
<td>EMF</td>
<td>Engineers Mobility Forum</td>
</tr>
<tr>
<td>ENERGYS</td>
<td>Engineers Now Ensuring Rollout by Growing Young Skills</td>
</tr>
<tr>
<td>EPWP</td>
<td>Expanded Public Works Programme</td>
</tr>
<tr>
<td>ESKOM</td>
<td>Electricity Supply Commission</td>
</tr>
<tr>
<td>ETQA</td>
<td>Education and Training Quality Assurance</td>
</tr>
<tr>
<td>FAEO</td>
<td>Federation of African Engineering Organisations</td>
</tr>
<tr>
<td>FET</td>
<td>Further Education and Training</td>
</tr>
<tr>
<td>FIDIC</td>
<td>International Federation of Consulting Engineers</td>
</tr>
<tr>
<td>GCC</td>
<td>Government Certificate of Competence</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information Systems</td>
</tr>
<tr>
<td>HEQCC</td>
<td>Higher Education Quality Committee</td>
</tr>
<tr>
<td>HSRC</td>
<td>Human Sciences Research Council</td>
</tr>
<tr>
<td>IAM</td>
<td>Infrastructure Asset Management</td>
</tr>
<tr>
<td>ICE</td>
<td>Institution of Civil Engineers</td>
</tr>
<tr>
<td>IDoEW</td>
<td>Identification of Engineering Work</td>
</tr>
<tr>
<td>IDP</td>
<td>Integrated Development Plan</td>
</tr>
<tr>
<td>IDT</td>
<td>Independent Development Trust</td>
</tr>
<tr>
<td>IDZ</td>
<td>Industrial Development Zone</td>
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<tr>
<td>IMESA</td>
<td>Institute of Municipal Engineering of Southern Africa</td>
</tr>
<tr>
<td>IPET</td>
<td>Institute of Professional Engineering Technologists</td>
</tr>
<tr>
<td>IStructE</td>
<td>Institution of Structural Engineers</td>
</tr>
<tr>
<td>ITC</td>
<td>Institute of Timber Construction</td>
</tr>
<tr>
<td>ITS</td>
<td>Intelligent Transport Systems</td>
</tr>
<tr>
<td>JIPSA</td>
<td>Joint Initiative for Priority Skills Acquisition</td>
</tr>
<tr>
<td>JRA</td>
<td>Johannesburg Road Agency</td>
</tr>
<tr>
<td>LGSETA</td>
<td>Local Government Sector Education and Training Authority</td>
</tr>
<tr>
<td>MBSA</td>
<td>Master Builders South Africa</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MIG</td>
<td>Municipal Infrastructure Grant</td>
</tr>
<tr>
<td>MIIU</td>
<td>Municipal Infrastructure Investment Unit</td>
</tr>
<tr>
<td>NABCAT</td>
<td>National Black Contractors and Allied Trades Forum</td>
</tr>
<tr>
<td>NEPAD</td>
<td>New Partnership for Africa’s Development</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>NHBRC</td>
<td>National Home Builders Registration Council</td>
</tr>
<tr>
<td>NPA</td>
<td>National Ports Authority</td>
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<tr>
<td>NQF</td>
<td>National Qualifications Framework</td>
</tr>
<tr>
<td>NRCS</td>
<td>National Regulator for Compulsory Specifications</td>
</tr>
<tr>
<td>NSBE</td>
<td>National Society of Black Engineers</td>
</tr>
<tr>
<td>NSFAS</td>
<td>National Student Financial Aid Scheme</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operations and Maintenance</td>
</tr>
<tr>
<td>OHS</td>
<td>Occupational Health and Safety</td>
</tr>
<tr>
<td>PMSA</td>
<td>Project Management South Africa</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RDP</td>
<td>Reconstruction and Development Programme</td>
</tr>
<tr>
<td>RedR</td>
<td>International &amp; RedR Southern Africa</td>
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</tbody>
</table>
Not all kerbs are the same...

Introducing the Bosun Castle Bottom Kerb.

- Easier to handle
- Quicker to install
- Better adhesion with less movement

Available on Figure 3, 7, and 8C 1000mm kerbs.

Advantages of Castle Bottom Kerb, Compared to Conventional Kerbs
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- The cavities make the Castle Bottom Kerb much quicker and easier to install. Where unlevel screed surfaces force installers to uplift, fill up and re-lay conventional kerbs it is easier to manoeuvre a Castle Bottom Kerb into place with the screed being displaced to the cavities in the kerb
- The Castle Bottom sinks into the screed providing much better adhesion and many more points of sure bonding
- The Castle bottom is less prone to movement than conventional flat kerb surfaces once the bedding has cured
- The flat bottom of conventional kerbs do not have consistent support from the screed as the screed is never a perfect match to the bottom surface of the kerb. The entire bottom surface might therefore not be in contact with the screed resulting in kerb breakages once weight is applied from above. The regular points of sure bonding of the Castle Bottom Kerb and their proximity to each other negate this possibility

www.bosun.co.za

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info@bosun.co.za