Ƨ shape shifter

Grow. Develop. Prosper.

Streamlining Registration Processes: Find out all you need to know

Meeting the new Sixth-Term SACPCMP Council

Addressing gender imbalance in Project Management

Setting your CPD goals for 2023

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-Tips
-Checklists
-And more!

SACPCMP

The South African Council for the Project and Construction Management Professions

— CONSTRUCTING NEW PERSPECTIVES —

Inside this Edition

Message from the SACPCMP President

The Construction industry continues to grapple with the pace of recovery post Covid-19 season. The industry plays a significant role and has a greater contribution towards the South African Gross Domestic Product (GDP). The aftereffects of various stages of the National Lockdown continued to be felt by the industry even long after the country moved from the state of disaster emanating from the pandemic.

This gives emphasis to the significant role of professionals in assisting the country towards a meaningful and most needed economic recovery which requires a roll out of infrastructure projects.

Recovery will require collaboration by various stakeholders; among them, Built Environment (BE) professionals should take a centre stage to advocate on matters affecting infrastructure development, the role of professionals in the recovery of lost jobs, and resuscitation of canned contracts due to the state of disaster which could not have been defined as anything but force majeure.

BE Professionals should take lessons learnt during Covid-19 as a preparation to similar types of tragedies, and influence better paces of recovery by engaging stake-holders varying from infrastructure projects funding institutions to associated regulations and legislative bodies. Given the current state of the energy crisis which resulted in a declaration of the state of disaster with immediate effect from 10 February 2023 as pronounced by the South African President, Hon Cyril Ramaphosa, the SACPCMP together with other bodies within the Built Environment space, should take a lead in the consolidation of meaningful inputs and proposals to deal decisively with the energy crisis, survival of businesses and hope of employment opportunities.

The SACPCMP and other industry bodies should join efforts to advocate for strict requirements for participation of only registered professionals in administering infrastructure contracts to ensure good governance of projects both from procurement and implementation perspectives, thereby ensuring that quality final products (in the form of infrastructure) are handed over to the public and end users.

The Council is on a journey to enhance strong collaborations with international bodies to continue to draw necessary lessons through benchmarking. This can be witnessed by the great relations between the Council and bodies such as the Chartered Institute of Building (CIOB), Project Management Institute (PMI), and the Royal Institute of Chartered Surveyors (RICS) among others. Our Voluntary Associations continue to play a significant role and enhance our work through engagements with industry stakeholders.

The Council continues to note the gradual improvement and the pace of industry recovery and pledges any possible support towards its registered professionals. I take this opportunity to introduce the voice of the Sixth Term Council of the SACPCMP and we trust our engagements with the industry will be meaningful.

We wish you a great indulgence with this edition of Shape Shifter.

Best wishes
Lufuno Ratsiku
President: SACPCMP

Congratulations on the recent appointments to the Department of Public Works and Infrastructure:
The Honourable Minister Sihle Zikalala (left) and
Deputy Minister Bernice Swarts (right).

public works & infrustructure

Department:
Public Works and Infrustructure
REPUBLIC OF SOUTH AFRICA

MEETING THE SACPCMP's
Sixth-Term Council

The South African Council for the Project and Construction Management Professions (SACPCMP) was recently very proud to announce the appointment of its Sixth-Term Council.

The outgoing Fifth-Term Council Members were sincerely thanked for their unwavering dedication and service in guiding the SACPCMP into an era of improved governance and growth for the betterment of the public and Built Environment.

Incoming Council members attended induction and governance training early in 2023 and were enthusiastic to start working together for the improvement of the Construction Sector and Built environment as a whole.

The incoming Council members are:
- Elected President, Lufuno Ratsiku
- Elected Vice President, Sharon Shunmugam

- Douglas Affleck
- Thabang Mbembele
- Kelebogile Ethney Mohotji
- Matshediso Joy Ndlovu
- Mokgobi Andrew Ramushu
- Leonard Sandile Swana
- Conrad Steyn
- Mbasayoxolo Xolisa Tshombe

In this edition of Shape Shifter, we take some time to get to know the incoming Sixth-Term Council Members a little better ...

The SACPCMP Sixth-Term Council and SACPCMP Registrar.

SACPCMP President, Lufuno Ratsiku

Lufuno Ratsiku is generally the tallest person in a boardroom, and passionate about leading team development and influencing social cohesion among multicultural and multiracial team members with similar objectives.

With a master's degree in Construction Management, he is the new Sixth-Term Council President and brings an integration of various skills and resources to ensure realisation of project objectives to the Council.

"During my tenure, I look forward to collaborations with various SACPCMP stakeholders and professionals within the Built Environment, and would like to see transformation and growth in terms of staff to impact the professions positively".

My favourite quote in life is "Live like a candle which burns itself but gives light to others". (La-Jana-Waddles)
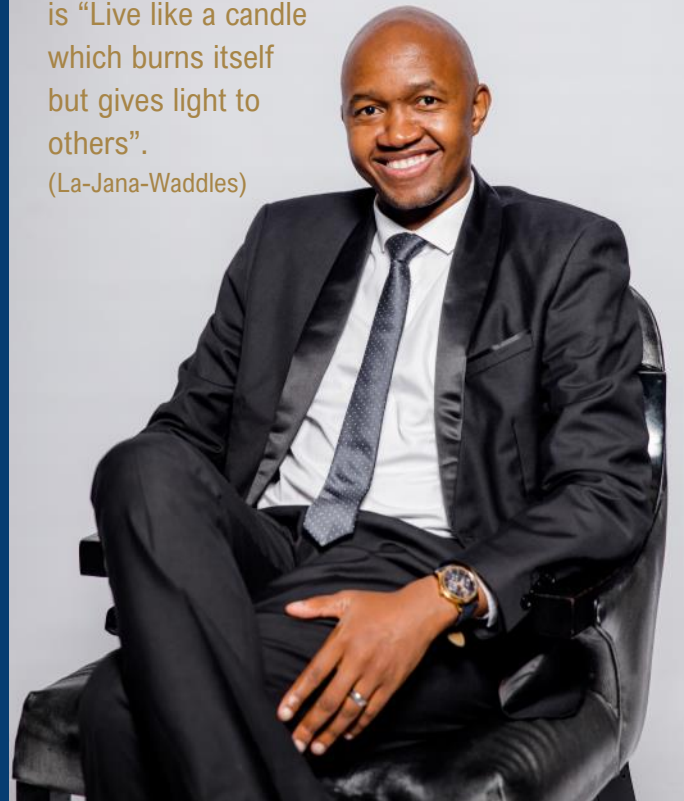
"My top three values are transparency, social cohesion and due diligence. In business, I feel that continuous improvement is very important."

My best personality trait is…
Consistent provocation of thoughts and meaningful engagements.

My friends or family would describe me as …
"Mr benefit of doubt"

You would be surprised to find out that I am …
an overthinker!

Vanilla, Chocolate or Strawberry?
Chocolate, but only from a kind hand.

In my spare time, I like to… "dance, but off beat"

SACPCMP Vice President,
Sharon Shunmugam

Sharon Shunmugam is a professionally registered Civil Technologist and Construction Project Manager with a Masters in Business Leadership and a Project Management Professional Certification during post graduate studies.

She spent the early years of her career in structural and civil engineering, also venturing into Project Management, running projects for both the public and private sector serving a wide array of clients and industries.

"As a Council Member, I would like to bring a renewed energy and commitment to the Council during this time of turbulence in our economy. The need for high quality, innovative, young and diverse built environment professionals has never been greater; so being in this role is an opportunity to foster progress for our industry and country".

Sharon describes herself as a full-time project manager, be it at the workplace, at home and even on holiday… and definitely at the mall!

"In the Middle of difficulty lies opportunity"
- Albert Einstein.

"My top three values are integrity, accountability and compassion. In business, I feel that honesty and integrity are very important."

Best personality trait is… My conscientiousness

Friends or family would describe me as … Loyal and always hungry

Vanilla, Chocolate or Strawberry … Vanilla

In my spare time, I like to … Read

"I enjoy being highly organised, anticipating (sometimes radical) scenarios, and managing my teams and my family. I am also an avid student who is always eager to grow my skills base."

Thabang Mbembele

T habang Mbembele's family would describe him as friendly, loving and passionate; this father of three and husband to one loves to travel, entertain and socialise. With a BSc QS, MBA and GEDP, he describes himself as an astute project manager, dedicated mentor and serial built environment entrepreneur.

"As a Council Member, I want to bring the good corporate governance and industry insights from a practicing professional both as a Pr CPM and Pr Mentor to the SACPCMP."

In addition, Thabang also hopes to contribute to developing industry visibility, brand recognition and marketing.

"My favourite quote in life is … Nature always self-corrects… it always does."

"My top three values are loyalty, integrity and sustainability. In business, I feel that transparency, consistency and diligence are very important."

"I would like to see the SACPCMP improve the public perception and increase the Council's registration database. I would also like to increase the market share of registered professionals, across borders!"

My best personality traits are being…
approachable, friendly, empathetic and dependable

You would be surprised to find out that …
I fear flying and yet I love traveling. Funny right … lol

Vanilla, Chocolate or Strawberry?
Chocolate all day, everyday

In my spare time, I like to …
Take long drives along the countryside (rural landscape), exploring our beautiful scenery, be it in the coastline or in the thick bushes of Mpumalanga and Limpopo. And golf - more like "slaan en soek"… lol

Douglas M. Affleck

Douglas Affleck describes himself as a proud father, an advantaged husband and an unshakable believer in the Proudly-South-African agenda. He feels his 15 years in the Construction Sector has gifted him with a proactive mindset, a wealth of interpersonal relationships and an understanding of key social challenges within our country.

"As a Council member, I want to bring a proactive, can-do attitude to problem solving and value building. The Fifth-Term Council has set the stage well for us. In terms of keeping that momentum, I would like to see that we identify five key, strategic SMART targets and deliver those to their full extent."

Douglas' experience includes the management of SHEQ elements for general building & civils engineering construction projects. He is a Green Building Accredited Professional as well as an ISO (9001 2015, 14001 2018 & 45001 2018) auditor, and is currently completing an MBA dissertation (Safety Leadership) to support his certifications in OHS, quality, & environmental management.

My favourite quote is *"You can't put a bow on a handful of mud, and then call it cake"...* it is to say that window dressing and falsehoods are not functional action plans. You may present an element with as much glamour & glitz as you like, however the true characteristics of the core will eventually shine through.

"My top three values are compassion, enthusiasm and integrity. In business, I feel that accountability is very important."

"This Sixth-Term Council is filled with the most qualified, experienced, interesting and engaging members I have ever met. As a team we understand that there is still a mountain to climb, but I am confident we will progress well and deliver on our mandate, one step at a time."

My best personality trait is … I am dependable

You would be surprised to find out that … I have broken over 10 bones; it seems that a part of my attraction to risk management and mitigation is also in the experience of when risk is realised.

Vanilla, Chocolate or Strawberry?
Chocolate. The answer is always chocolate.

In my spare time … to feed my health, I enjoy sports such as canoeing, running and hockey; to feed my mind, I enjoy listening to podcasts; to feed my soul, I enjoy motorcycles.

Kelebogile Mohotji

Kelebogile Mohoti describes herself as passionate, ambitious and driven. As a result-oriented person, who has completed her SAICA Articles also holds a BCom in Accounting. Kelebogile, who says she is both an introvert and at the same time, an extrovert, has the best of both worlds in terms of experience - she been exposed to both private and public sectors, in a variety of industries.

In joining the Sixth-Term Council, she hopes to bring her financial, auditing, risk and compliance experience to the SACPCMP to assist in achieving its mandate.

"My ability to be able to work with different characters will also assist in adding value to the Council. As a Council Member, I would like to see more professionals registered with the Council, and the public be aware of the Council. Also, I would like to see the Council achieve financial sustainability through the diversification of revenue streams."

"My favourite quote in life is … Just do it."

"My top three values are honesty, respect and humility. In business, I feel that ethics are very important."

My best personality trait is…
I am able to relate to anyone at any level of life and position

You would be surprised to find out that ...
I am very funny, I kid you not.

Vanilla, Chocolate or Strawberry?
Strawberry

In my spare time, I like to …
Do window shopping

Mbasayoxolo Xolisa Tshombe

My favourite quote in life is "live life live".

Mbasa Tshombe describes himself as easy-going and fun-loving. He enjoys outdoor adventure and photography, and is an   experienced and enthusiastic architect and Built Environment infrastructure specialist with more than 14 years of public and private sector experience, and an appreciation of innovation and forward thinking.

He holds a Masters in Architecture, and certificates in Investment Appraisal and Risk Analysis, and PPP Professional Foundations. His experience includes Infrastructure Programme Monitoring and Oversight, Infrastructure Projects Planning and Implementation, Architecture, Strategic Planning, IDMS, and SIPDM implementation.

"As a Council member, I want to bring innovative ideas, strengthened corporate governance and targeted solutions to industry challenges. I would like to contribute to the Council's vision of being a world class regulatory body for Professionals, and increase safety measures on site to prevent serious injuries and loss of life".

"My top three values are integrity, commitment & compassion. In business, I feel that trust and sound principles are very important."

"I want to build stronger relationships with broader stakeholders such as institutions of higher learning and schools; and strike a balance between regulation of industry and its sustainable growth opportunities."   He also hopes to contribute to resolving matters of the IDoW and guideline for professional fees, as well as developing a positive SACPCMP reputation and public profile.

My best personality traits are… humility and a sense of humour

You would be surprised to find out that …
I cook and braai quite well. I am also an external examiner for Architecture third-year design students.

Vanilla, Chocolate or Strawberry? Strawberry.

In my spare time, I like to… run, take pictures and sketch.

Conrad Steyn

Conrad Steyn is an accomplished construction management professional with 14 years of experience in the project management consultation and health & safety professions. In addition to a list of qualifications in construction management, architectural drawing and project management, he also holds an MBA, as well as a BTech Degree in Safety Management.

He is passionate about digital integration initiatives, business development, operations and training, as well as transformational leadership and developing digital and sustainable health and safety, systems, policies and procedures.

"I have dedicated my career to South Africa's construction industry; as a Council Member, I hope to leverage my understanding of the industry to support SACPCMP strategies and stimulate the bridging of inherent gaps through technology, innovative and holistic solutions that stand the test of time. A sustainable approach creates more manageable processes and empowers and enriches experiences through the power of technology."

My favourite quote in life is...
"The happiness of your life depends upon the quality of your thoughts."

"My top three values are accountability, honesty & humility. Good leadership, honesty, transparency & equality are very important in business."
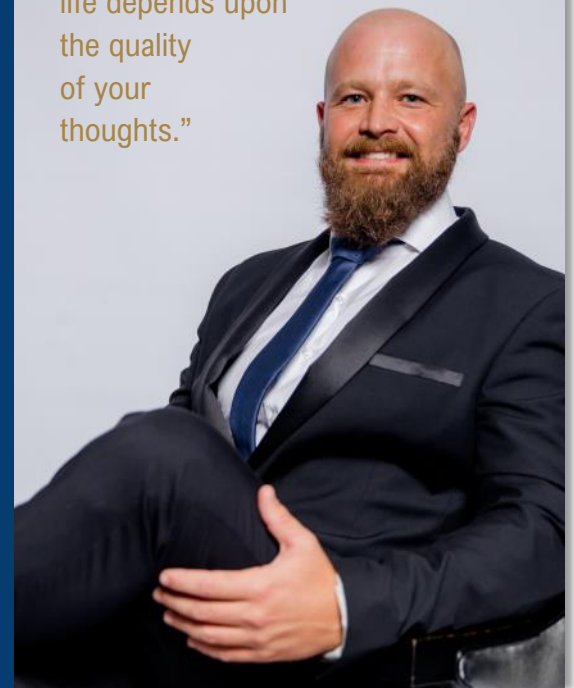
"I highly value mentorship and I am passionate about great leadership. As a collaborative leader, I emphasize team dynamics, transparency, professionalism, and development. As a Council Member, my primary goal would be to work towards improving the overall effectiveness and credibility of the SACPCMP, as well as the strengthening of regulations and standards. I would like to see the SACPCMP take a more proactive approach towards setting and enforcing regulations and standards that promote high levels of professionalism and ethical conduct"

Vanilla, Chocolate or Strawberry… Chocolate

In my spare time, I like to …Travel, surf, golf, read & listen to music

My friends or family would describe me as …
Someone who is dependable, supportive, and who genuinely cares about the people in my life. They would also likely mention that I am a good listener and communicator

Mokgobi Ramushu

Mokgobi Ramushu is a resilient and seasoned engineering professional with extensive experience in civil engineering and the construction sector, and qualifications that include BSc Eng (Wits); MSc Eng (Wits); LLB (UNISA) and a PGDip-General Management (GIBS).

As a man who pays attention to detail, he has worked in various industries, including the nuclear petrochemical sectors, auditing and public service, and describes himself as a scholar with research interests around the exploration of extortion practices and their effects on formal construction businesses.

"My experience can best be described as diverse and unconventional in different facets of engineering and construction management in various industries and sectors. As a Council Member, I want to bring skill, due care and diligence to the SACPCMP table, as well as awareness, accessibility, efficiency and inclusion."

"My favourite quote in life is … Anything foreign to me is not unknown but a challenge to be known."

"My top three values are honesty, integrity and accountability. In business, I feel that competence and ethical leadership are very important."

My friends or family would describe me as…
Strict and ethical

You would be surprised to find out that …
I am number 5 of 6 children.

Vanilla, Chocolate or Strawberry?
Strawberry

In my spare time, I like to…
Exercise, read a book and travel the world.

Matshediso Joy Ndlovu

Dr Joy Ndlovu describes herself as a kind, bold, driven and determined woman, wanting to leave the world in a better state than she found it.

With her Doctor and Master of Business Administration, as well as a Bachelor's degree (HRM) she is also a Business Administration graduate, an academic and a scholarly researcher.

Dr. Ndlovu has extensive experience in human and business development. She has operated in complex and uncertain environments, in both the private and public sectors.

"As a Council Member, I want to bring innovation, impact and real transformation, in particular of women and the youth."

"My favourite quote in life is … The best view comes after the hardest climb."

"My top three values are authenticity, independence and excellence. In business, I feel that impactful service delivery is very important."

My best personality trait is…
Openness and conscientiousness

My friends or family would describe me as …
Fun, determined and kind

You would be surprised to find out that …
I have a code EC with a professional driver permit

Vanilla, Chocolate or Strawberry … Chocolate

In my spare time, I like to …
Read, paint, draw and travel around the world

Leonard S. Swana

Leonard Swana describes himself as professional, analytical, and taking a high level of ethical care in his work approach; but he is not judgemental.

He is self-driven in his work environment, with experience in a number of areas including leadership, project management, and engineering. His qualifications include an MBA, a BTech in Civil Engineering, a National Diploma in Civil Engineering and a Diploma in Theology. He is also a PRINCE2 Practitioner, has certificates in Facilities and Project Management, and has attained his PMP.

"The appointment by the Minister of Public Works and Infrastructure to 6th Term Council of the SACPCMP is most welcome and highly appreciated. I believe that I have something to offer the Built Environment in the space of Project Management, especially after 28 years in the industry. I bring a value in ethical leadership and integrity, a great taste of executive leadership and policy development expertise, and well grounded experience in the compliance space with regards to legislation and regulations".

"My favourite quote in life is … Not born to break."

"My top three values are integrity, honesty & respect. In business, I feel that professionalism and ethics are very important."

"I would like to see a total transformation regarding the registration of SACPCMP professionals and increased confidence levels of the public in SACPCMP Registered Professionals.

I would also like to see the SACPCMP making in-roads into client departments regarding their project managers in respect of their registration status to strengthen the call for professionalism across the entire sector."

My friends or family would describe me as… very analytical

You would be surprised to find out that I enjoy … training facilitation in two areas: Project Management & Theology

Vanilla, Chocolate or Strawberry? None

In my spare time, I like to… read and play with my children.

Better, Faster, More!

SACPCMP streamlines registration processes for improved service delivery

As part of the implementation of the 2020-2025 strategic plan, the SACPCMP embarked on a programme in 2022 to formalise and fine tune its business processes. This will allow the Council to better comply with its social and regulatory mandates.

The clearly defined business processes were approved by the Council in June 2022 and are expected to enable clearer accountabilities that will allow the SACPCMP to not only improve its value proposition to stakeholders but also improve operational efficiencies.

One of the improvements from the project will see an adjustment in Registration Processes.

Streamlining Registration Processes

These adjustments are expected to enable the Council to streamline all registration activities and ultimately ensure better resource allocation and improved engagement with SACPCMP stakeholders.

The primary adjustment will see the Council move to 'batch processing transactions' in terms of

registration. This means that registration applications will be grouped and processed in batches or as a group. The advantages of batch processing will be:

- Better planning and/or goal setting
- Better resource utilisation in the registration process
- Better reporting and forecasting
- Improved auditing trails
- Improved engagements with stakeholders

"For the Registration Department, this means that registration

SACPCMP streamlines registration process for improved service delivery

applications can be received during a specified period and processed as a group. An allowance has been made for planning of all batch business processes ahead of time," explained Ms. Sindi Kwenaite, Executive: Operations.

"This will be to coordinate with the overall SACPCMP corporate calendar to allow for cross utilisation of resources should the need arise. We believe that this will enable the Council to be more focused on its incoming registrations and provide clear timelines for the processing of applications.

"It is expected to reduce confusion and waiting times for application management. It will also mean that we can focus on finalising applications in a batch process – similar to the way in which the universities deal with their applications – and provide an improved, clear streamlined service to applicants."

Kwenaite explained that the batch

processing would commence from 3 April 2023, and would be communicated to all stakeholders in advance, through an annual calendar. The calendar will provide clear application windows, which will have an opening date and a closing date. Applications can only be submitted during a specific 'window' time frame.

Once the window is closed, the Council would focus on processing all the applications received within a specific time frame. A focused process is expected to allow better time for application processing, and thus, a faster, more streamlined process.

"It means that applicants will know exactly when to submit their applications, and when they can expect to hear a response from the Council.

It also enables the SACPCMP Registration Team to work within clearly defined processes and timelines. We are very excited to start this process. It will clarify application timelines for our stakeholders," said Kwenaite.

> "We are very excited to start this process. It will clarify application timelines for you stakeholders."

Process Q&A

Question: Will the implementation of batch processing affect my current application?
Answer: No; if you are currently in the application process, your application will carry on forward. The new processing will not stop any current applications that are underway.

Question: Will this cost more?
Answer: No, the batch processing of applications will not result in a cost increase for applicants. Registration application costs will remain as per the fees gazetted in December every year.

**Question: Will this batch process make application more difficult?**
Answer: No, the batch process will not affect the requirements of registration. The batch processing will only affect WHEN you can submit your application, and WHEN the internal processing of that application will take place.

Question: Will this batch process make the registration process long?
Answer: No, in fact, because of the batch processing, which will allow registration staff to be more focused on a set of applications, we expect that very soon, the application process times will improve.

Question: How often will the windows open for applications?
Answer: The Council will open at least four application windows per year. These windows will be open for approximately one month, to allow for submissions. When application windows close, the SACPCMP will work swiftly on processing all of the applications received during that specific window.
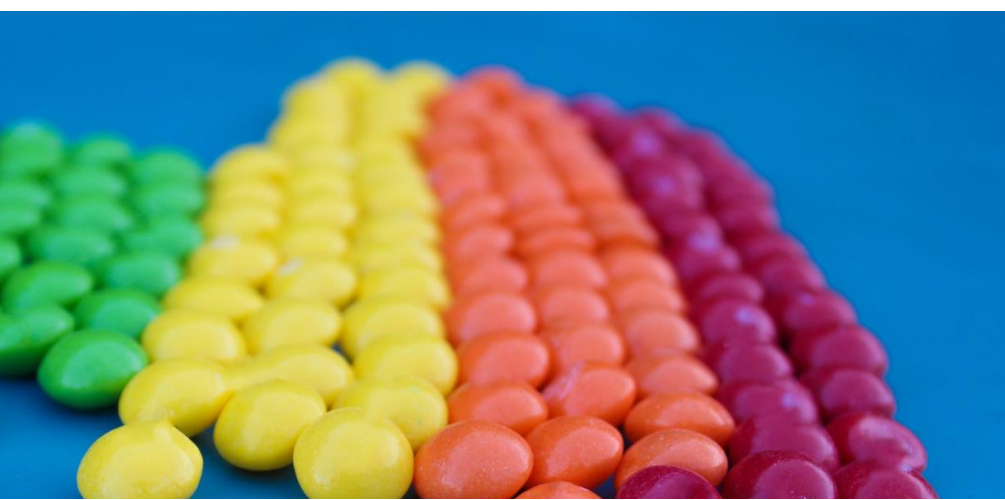
SACPCMP streamlines registration process for improved service delivery

She noted that the Council also hoped that the batch process would motivate applicants to submit their applications fully and not in "drips and drabs", which resulted in application process slowdowns.

"The Council will be hosting a range of free application workshops a month before the opening of each application window, to guide applicants on how to complete the application process successfully. This will include explaining all the entry requirements and the requirements for the types and standard of documents that must be submitted with an application", explained Kwenaite.

Communication to the Public

The SACPCMP will communicate its annual calendar at the start of its new financial year (April 2023) and publish the calendar annually on its website for easy access. The calendar will outline all the relevant dates for workshops, application windows, assessments and issuance of certificates.

Kwenaite cautioned that incomplete applications will no longer be kept active indefinitely; applicants must ensure they submit all relevant documentation in time to avoid their applications being cancelled.

"This is an exciting step for the Council in service delivery and operations planning. We need to do things in a more structured way, so we can communicate clearly to all applicants the registration processes, their associated timelines and when they can expect outcomes," she said.

"It will take a little getting used to, but we will all be working off the same calendar and the same dates. So, we will all be working towards the same timelines."

Process Q&A

Question: What can affect or slow down my application?
Answer: If you try to apply for registration when an application window is closed, your application will not go through.

You will need to wait for the next window to open. In addition, if you do not submit all the required documents for registration (ie: certified ID copy, qualifications, CV etc), your application may get stuck, until you submit the correct documents.

Question: What would cause my application to be cancelled?
Answer: If you have not submitted the relevant supporting documentation to complete your application within a set period it will be cancelled.

SACPCMP Application Windows for the 2023/2024 Financial Year

Window 1
Registration Application Window opens on 03 April 2023; window closes on 12 May 2023

Window 2
Registration Application Window opens on 03 July 2023; window closes on 04 August 2023

Window 3
Registration Application Window opens on 02 October 2023; window closes on 20 October 2023

Window 4
Registration Application Window opens on 15 January 2023; window closes on 02 February 2023

CALL FOR PAPERS

ASOCSA
ASSOCIATION OF **SCHOOLS** OF CONSTRUCTION OF **SOUTHERN AFRICA**

17TH BUILT ENVIRONMENT CONFERENCE
26 – 28 SEP 2023
IN PERSON EVENT

CONSTRUCTION IN 5D: THE FINAL CHAPTER
DECONSTRUCTION, DIGITALIZATION, DISRUPTION, DISASTER, DEVELOPMENT

"Learning and Innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow." ~ William Pollard

There is little doubt that the construction industry has experienced exponential change and development in recent years. The 17th Built Environment Conference will examine five of these cutting-edge concepts to determine their state of the art in the construction sector both in practice and academic research. This conference therefore seeks responses to questions related to current conversations, debates and empirical research on:

Deconstruction: The dismantling or 'unbuilding' of buildings to maximise reusing and preserving the demolished fragments and involves taking a building apart piece by piece, essentially reversing the order of the construction.

Digitalization: The conversion and transformation of construction business processes to use digital technologies and embrace the ability of digital technology to collect data, establish trends and make better business decisions.

Disruption: Displacement of well-established construction technologies, techniques or products to disruptively affect the normal operation or function of the construction Industry while potentially creating a new industry or market. Artificial intelligence, virtual/augmented reality, internet of things, blockchain technology, and an e-commerce are some of the disruptive technologies that are significantly influencing the future of the construction industry.

Disaster: An occurrence that disrupts the normal conditions of existence and operation causing a level of suffering and challenge that exceeds the capacity of adjustment of the affected community and the construction industry.

Development: In the context of construction refers to an industry that possesses the vision, leadership and capacity to bring about a positive transformation of itself within a condensed period of time.

Selected papers will be published as book chapters and indexed in Scopus

It is intended that these papers will contribute significantly to the existing body of knowledge relative to the science and practice of construction not only in South Africa but everywhere where the products of construction are produced even in these new challenging times of fear and uncertainty.

The conference invites papers within the context of its theme that address, inter alia, in both public and private sectors:

- Current trends and developments
- Innovation
- Opportunities and challenges
- Policies and procedures
- Legislation and regulations
- Practices
- Case studies

Papers will be reviewed according to:

- Relevance to the conference theme
- Objectives and outcomes of the conference
- Originality of the subject matter
- Rigor and robustness of empirical research
- Research design and methods

Please submit your papers via the easychair link. Click on attachment or visit www.asocsa.org for the link to upload your paper.

Full Paper Submission: 15 July 2023	Notice of Acceptance: 6 August 2023	Final Paper Submission: 30 August 2023

Download Paper Template   **Fees & Rules**   **Submit Paper Online**

cib
International Council for Research and Innovation in Building and Construction

Addressing gender imbalance in project management

Sub-Saharan Africa has made steady progress in addressing gender imbalance in project management, Project Management Institute (PMI) data shows

A report from the PMI recently noted - women hold significantly fewer jobs than their male counterparts, despite global equality movements and diversity, equity, and inclusion (DE&I) programs taking hold in the workplace.

According to the International Labour Organisation, the global labour force participation rate for women is just under 47%, compared with 72% for men. This gender gap in employment is even starker in project management, where male project managers outnumber female project managers 3:1, according to recent research from PMI.

In a sector marked by a talent shortage, the statistics point to underutilisation of skills women bring to the Project Economy and the loss of diversity in a male-dominated environment. PMI's Talent Gap report predicts that the number of jobs

requiring project management-oriented skills, from economic growth to retirement rates, will create a global need for 25 million new project professionals by 2030.

To better understand the current state of women in project management and where opportunities exist for female workers and organisations, PMI looked at data from over 1,900 female project professionals who responded to the PMI Annual Global Survey on Project Management in 2022.

The gender gap in project management is universal. Male project professionals outnumber females in every region worldwide, but the disparities are most significant in the Middle East and North Africa, Asia Pacific, and South Asia. Gender gaps are lowest in North America, sub-Saharan Africa, and China.

While women have advanced in the sector over the past few decades, George Asamani, MD of PMI: Sub-Saharan Africa, encouraged more women to take advantage of the gains that stem from certifications:

"While there is a glaring disparity which has immediate negative implications for project teams, 88%

of project professionals say having diverse project teams increases value. Workplace gender equality is not just about inclusivity; it also has a compelling commercial imperative," he said.

In industries like telecom, information technology, construction, transportation/logistics, energy, aerospace, manufacturing, automotive, and consulting, male project managers outnumber females by more than 50%. Healthcare is the only industry where the gap is less than 20%.

"Women in project management must not be a numbers game. While it is important to have more female representation, we need to look at how we can build capacity and create opportunities for education and training and for women to take on leadership roles. We have a thriving volunteering community in our Chapters across 21 countries in the region that advocates for more women in project management and actively

The gender gap in project management is universal. Male project professionals outnumber females in every region worldwide.

George Asamani, MD of PMI: Sub-Saharan Africa

nurtures and supports the wealth of talent and enthusiasm through networking, events, town halls, and webinars," added Asamani.

PMI's global snapshot showed that male project managers outnumber their female counterparts worldwide and in every sector, but the gaps differ significantly by region and industry. The report also found that women earn less than men and are slightly less likely to have a project management certification or degree. While there are fewer women in the project workforce, they are slightly

Addressing gender imbalance in project management

less likely than men to have a leadership role.

According to the United Nations, women earn about 20% less than men for work of equal value. For female project managers, the pay gap in most countries is below the global average but significant. According to PMI's most recent salary survey, female project managers earn less than male project managers in every country surveyed.

In South Africa, the salary difference

Innocentia Mahlangu, Vice President of Professional Development, PMI - South Africa Chapter

between the female and their male counterparts is 14%. Innocentia Mahlangu, Vice President of Professional Development, PMI -South Africa Chapter, said:

"Stimulating dialogue on female representation in the workplace, especially on occasions like International Women's Day, is crucial to driving awareness. Achieving gender balance in the sector won't happen by accident, and deliberate actions must be taken to change the status quo.

The Women in Project Management report offers hard evidence of where the gaps are and should help organisations take deliberate and strategic actions to fill those. Agenda 2063 is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. And achieving the goals therein rests on managing the flagship projects. Organisations need to be intentional about building inclusive workplaces. We can and must do better."

On a positive note,

despite the gaps in earnings and certification, data shows the disparity in leadership roles is relatively tiny. 21% Of women report some level of management role, compared to 23% of men.

Leadership positions include PMO director, portfolio manager, product manager, functional manager, and development manager.

While the total number of female managers is still significantly lower than that of male managers due to the overall gender disparity in the profession, the data shows that women are being provided opportunities to advance their careers and contribute at more strategic levels within organisations.

This opportunity to move into leadership is a selling point, hiring managers should emphasise when seeking to recruit more women into project management roles. "The lifeblood of decision-making is data. We hope organisations use the findings to move the needle on female representation in project management," concluded Asamani.

On a positive note, despite the gaps in earnings and certification, data shows the disparity in leadership roles is relatively tiny; 21% of women report some level of management role, compared to 23% of men.

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Setting your CPD Goals for 2023

Authored by Khutso Mogkehle

Proper planning prevents poor performance. This is a very common statement yet very profound and if applied, it produces great results.

Continuing Professional Development (CPD) is one of the requirements for a Registered Professional (RP) to maintain their registration status with the SACPCMP, therefore, it becomes a necessity to pre-plan CPD for the year ahead.

Understanding CPD

One of the most important factors when it comes to planning for CPD is to ensure that you know and understand what CPD is and how it works. A common mistake that most RPs make is to start working and spending money on activities for CPD, only to realise at a later stage that the activities are not acceptable as per the Council's CPD Policy.

The Council hosts online CPD Compliance workshops every quarter. These workshops give an overview of what is expected of an RP and also how many CPD Hours an RP needs to accumulate based on their registration category. Every RP is advised to attend at least one of these workshop sessions each year.

CPD Compliance Workshop Dates for 2023

- **24 May 2023**
- **23 August 2023**
- **22 November 2023**
- **21 February 2024**

CPD Cycles Ending 2023

A CPD cycle is the five-year period allocated to each RP to be compliant with the CPD requirements as stipulated in the Council's CPD Policy.

Every RP has a unique start and end date of their CPD cycle depending on when they were registered.

Registered Professionals whose cycle is ending in 2023 need to ensure that they are compliant in all three CPD Categories by the 31st of March 2023. Compliant RPs will be moved to the next cycle (which is 1 April 2023 to 1 March 2028).

Non-compliant RPs will be placed in a Remedial Programme. A remedial programme is a 12-month grace

period that allows the RP to be compliant with CPD in the categories in which they could not successfully comply. The Remedial Programme, even though it is very helpful, can also be frustrating.

RPs should avoid being in the Remedial Programme by engaging in CPD activities sooner and also uploading all the relevant CPD evidence to their profile.

At the end of the Remedial Programme, if the RP is still not compliant, they will be suspended pending deregistration.

CPD Cycle Ending 2024 & beyond

The RPs whose cycle is ending in 2024, and beyond, are currently safe as they still have ample time to be compliant. However, they are encouraged to work on their CPD.

It is important for these RPs to attend CPD Compliance workshops, engage in relevant CPD activities and also upload the CPD evidence on the system.

The Current Remedial Programme

It is also important to note that currently, there are RPs who are on the Remedial Programme ending on the 31st of October 2023. These RPs are encouraged to constantly check their CPD statements to see their CPD progress and shortfalls on the different categories.

They should purposefully engage in relevant CPD activities.

If a CPD Cycle ended in 2020, 2021 and 2022 and they are still not compliant with CPD by the 1st of November 2023, the RPs will be suspended pending deregistration. Therefore, these RPs are encouraged to prioritise CPD this year and communicate with the SACPCMP if they need assistance in any matter related to CPD by sending their queries to: cpd@sacpcmp.org.za

"Many have the impression that mentorship is difficult; However, when looking at the activities under Category B, they realise they have already been participating in mentorship activities that are acceptable for submission; they are just not aware of this."

Mentoring with a Plan

One of the most challenging CPD categories is Category B: Mentorship and Development. Many RPs have the impression that mentorship is difficult, costly and time consuming.

However, when they look at the acceptable activities under Category B, many RPs realise that they have already been participating in mentorship activities that are acceptable for submission to the SACPCMP; they are just not aware of this.

Mentorship Workshops

The Council will be hosting a series of mentorship workshops every quarter to ensure that all RPs understand the different activities they can do for Category B.

Mentorship Workshop Dates

- **30 May 2023**
- **29 August 2023**
- **28 November 2023**
- **27 February 2024**

The Mentor Database

The SACPCMP has created an opportunity for mentorship for Registered Persons who are interested in mentoring through the Mentor Database.

The Mentor Database gives the mentors the platform to engage with university students and candidates who need mentorship through different programmes and platforms.

If you are interested in being enlisted on the Mentor Database, send an email to: mentorship@sacpcmp.org.za

Council Communication

The SACPCMP uses various platforms to communicate and engage with RPs on industry related issues including CPD.

Remember to always keep an eye on the Shape Shifter magazine, your Council emails and SACPCMP social media posts to receive CPD updates.

SACPCMP WEBINAR

CPD hours = 6.5 hours

SACPCMP
The South African Council for the Project and Construction Management Professions
— CONSTRUCTING NEW PERSPECTIVES —

Time	SACPCMP Webinar Programme (05 April 2023)
09:00	Opening and Welcome
09:30	SANRAL's Community Development Programme as a vehicle for Contractor Development and Job creation.
10:30	PMI Construction Management Presentation
11:20	Digitilising the Construction Industry
12.15	The Importance of Risk Mitigation and Developing a Culture of Health and Safety Awareness
13:30	Closure

Cost = R470 per person; Booking closes 4 April 2023

Book via: https://sacpcmp.m2mtech.co.za

'Maselulekane' - A Nation Building Candidacy Mentoring and Support Program

KMG KNOWLEDGE MENTORING GLOBAL

Building a Better Future – Fast-tracking the Candidacy Journey to Professional Registration through Technology – a real sustainability-focused solution for the South African Built Environment

'Maselulekane' – Let's talk to each other

The South African Institution of Civil Engineering (SAICE) and Mentoring 4 Success (M4S) have partnered to reframe the candidacy journey to professional registration across the South African Built Environment through the creation of *'Maselulekane'*, a nation-building Candidacy Mentoring and Support Program.

'Inkaba' – A sense of total connectivity

- Aligned to your discipline and to your own personal candidacy journey and progress
- Enabled with a career long digital learning App that plans, monitors and prompts you
- Ensures an experience that combines goals, capabilities, journals, presentations and insights
- Provides mentoring on-demand with personalised evidence-based learning records
- Caters for all disciplines across the Built Environment – engineers, quantity surveyors, architects, project managers, construction managers, town planners, natural scientists etc
- Recognised by SARS, CETA, B-BBEE Verification Agencies and Built Environment Professional Bodies offering organisational benefits for Code 400 and Code 500 B-BBEE donations
- B-BBEE Compliant as an accredited DTI Skills Matrix "Category C" Candidacy Mentoring Program under Code 300

Nation Building through mobile knowledge mentoring® - the missing link in the journey to professional registration

Program commences in January 2023 and offers a flexible 12-month to 60-month Candidacy Mentoring and Support solution to create meaningful career opportunities for thousands of young graduates. We invite you to join us in being part of this exciting journey!

saice GROWING FORWARD TOGETHER

MENTORING 4 SUCCESS

INKABA Knowledge Mentoring Academy

INKABA Education and Development Trust

Interested organisations, sponsors and candidates can register expressions of interest with **louise@m4s.co.za**

Let's not waste another moment - Registrations open January 2023

Applications

to register with the SACPCMP as a

Pr CM or Pr CPM

The guide was developed by Uwe Putlitz to guide SACPCMP applicants with lessons learnt illustrated with successes or challenges. The author has been involved in the review of applications for registration as a Professional Construction Manager (primarily the procurement and construction phases) or as a Professional Construction Project Manager (all activities from initiation to completion) for many years for the SACPCMP.

Applicants for professional registration with the SACPCMP are required to submit and 'pass' two written reports. These should illustrate how the applicant has dealt with a 'challenging' project and the actions taken to achieve a 'successful' project in accordance with the nine knowledge areas (ten from edition six) of the Project Management Body of Knowledge during each of the six work-stages (these are similar for all construction related disciplines).

Submissions are reviewed by a panel of four SACPCMP-registered professionals who are qualified assessors. If 'passed', the applicant will be invited to a professional interview conducted by a different panel of four SACPCMP registered professionals who are qualified professionals to demonstrate his/her competence by describing how a project of their choice was implemented and managed by responding to questions from the panel to confirm his/her understanding of the statutory and practical aspects of being a Pr CPM or a Pr CM.

The applicant must identify him/herself in the various SACPCMP documents by stating:

- ✓ Full names/ | date and place of birth | ID number | postal and residential or business addresses;

- List (approved/SAQA) qualifications obtained, the dates and the tertiary education institutions attended;

- List professional memberships, category and applicable registration dates;

- List professional development/CPD activities completed (during the past four years);

- List other relevant information – awards, publications, etc

- List your current employer – and previous employers, your job description(s) (title) and durations served;

- List your role/involvement, duties and unique skills acquired with each type of project described;

- Record your relationship with one or more mentor(s), if applicable;

- List any references who may be contacted by the Council.

Observations from reviewing reports over many years:

- Each of the two written reports should not exceed ±1500 words describing projects undertaken or completed in the last four years; (*Significantly longer reports may be 'penalised' – a Pr CPM or Pr CM must be able to communicate by providing all relevant information 'concisely'!*)

- Each report must start with the 'title' and location of the project(s) described as 'challenges', 'successes', and 'your role in the execution of the project';

- A Pr CPM and a Pr CM must be a competent communicator in his/her professional life. Consider:

  * Long sentences and paragraphs may be difficult to read and to extract critical information;

  * Introduce a topic by stating: "I instigated/managed etc:" This must be followed by illustrative bullet points (without repeating "I" numerous times);

  * Conclude a section or the report with 'lessons learned'...

  * The applicant's original professional qualification is the 'entry' to qualify for registration as a Pr CPM or a Pr CM and is of great value to understand construction processes and what is possible, or not.

  * Applicants frequently describe their prowess as an engineer, architect or quantity surveyor instead of their Pr CPM or a Pr CM role. This is not relevant to Pr CPM / Pr CM registration!

  * Where the applicant has no recognised qualifications but years of relevant experience, the Act provides for 'RPL*'.

* The emphasis for registration as a Pr CPM or a Pr CM is the interpretation of the South African statutory requirements embodied in the current editions of the "Construction Management Professions Act 48 of 2000", the "Identification of Work and Scope of Services and recommended guideline of tariff of fees", and the "Construction Regulations 2014" and project management principles generally guided by the (American) Project Management Body of Knowledge (PMBOK) thinking (6th edition).

Note: The 7th edition PMBOK includes the 10th knowledge area of 'stakeholder management'.

Note: The reports prepared by Pr CPM and Pr CM applicants follow must follow the same format of the ten knowledge areas. The interviews thereafter differ. The Pr CPM must describe necessary actions during all six work-stages while the Pr CM concentrates on work-stages (4), 5 and 6.

* Consider using the editing facilities embodied in MS Word (and the like) to facilitate page layout, page numbering, header and/or footer, contents, list of acronyms used, references if applicable, creating bullet points, inserting diagrams or photographs if relevant to the subject matter.

* Read your report aloud (or use the facility in MS Word: "review" ... under 'read aloud') as if it was submitted to you for review. You may find that you have omitted the project title, location and key dates, your particulars, or repeated the same information needlessly, etc

*Abbreviations

RPL - Recognition of Prior Learning

PMBOK - Project Management Body of Knowledge (PMBOK)

* It may be necessary to specify "confidentiality of information included for illustration" purposes – the persons assessing the report/conducting the interview are bound not to disclose such information for any purpose other than the professional registration.

Pr CPM	PC	PA	Pr CM		SACPCMP work-stages
Pr Construction Project Manager	principal consultant			1	inception
				2	concept, feasibilty and viability
				3	design development
	principal agent	Pr Construction Manager		4	documentation and Procurement
				5	construction
				6	close-out

Pr CPM	PC	PA	Pr CM		PMBOK Management of:
Pr Construction Project Manager	principal consultant	principal agent	Pr Construction Manager	0	project identification
				1	integration
				2	scope
				3	time
				4	cost
				5	quality
				6	human resources
				7	communication
				8	risk
				9	procurement
				10	stakeholder

ACCRONYMS (project specific)

BBBEE: Broad Based Black Economic Empowerment

CIDB: Construction Industry Development Board

CLO: Community Liaison Officer

COIDA: Compensation for Occupational injuries and Diseases Act 130 of 1993

CPG: Contractor Participation Goals

COLTO: Committee of Land and Transport Officers

EPWP: Expanded Public Works Programme

FIDIC: Federation Internationale des Ingénieurs-Conseils – red book

GCC: General Conditions of Contract

JBCC: Joint Building Contracts Committee

MFMA: Municipal Finance Management Act

The report should follow the typical format of:

<u>**APPLICATION COVER**</u> (COVER PAGE on SACPCMP title page)
Document title:
'Report for registration as a Professional Construction {Project} Manager'
Your Name and contact details / date prepared

<u>**REPORT COVER PAGE**</u> (on SACPCMP title page and the 'Introduction')
* Project title & short description
* Location
* Your name and ID number

Project profile(s) Annexures A 1 or **A2**
* Name of the Client (representative) (Employer) / position / contact details
* Names of participating organizations
* Your specific and your organization's role in the project (percentage?)
* *Budget / tender amount / final account value*
* *Key dates – commencement, planned and actual completion dates*
* *Project successfully completed / lessons learnt, and if appropriate:*
  - Status (ISO) Classification (information, approved for (?)| restricted | personal, etc)
  - Project / file Reference
  - Date / Revision (? if applicable)
  - Author
  - Checked by (date/initials/signature)
  - Approved by (date/initials/signature)

<u>**CONTENTS:**</u>

PROJECT PROFILE - Annexure A1
or
PROJECT REPORT – Annexure A 2 = successes | challenges

1 Project Integration Management

2 Project Scope Management

3 Project Time Management

4 Project Cost Management

5 Project Quality Management

6 Project Human Resources Management

7 Project Communications Management

8 Project Risk management including Health & Safety

9 Project Procurement Management

10 Project Stakeholder Management

Information in tables is often easier to read, for example: qualifications obtained and CPD events attended.

Year / date	Place	Institution	Qualification	Duration
2022-12-02	Pretoria	University of Pretoria	B Sc Hons Construct Studies	4 years
2022-08-01/2	Midrand	Help & Associates	NEC4 Prj Mgr obligations	16 hours

ACCRONYMS Cont. (project specific)

PROCSA: Professional Client-Consultant Service Agreement

NEC: New Engineering Contract

OH&SA: Occupational Health and Safety Act 85 of 1993

PFMA: Public Finance Management Act

SACPCMP: South African Council for Project and Construction Management Professions

SAICE: South African Institution of Civil Engineers

SANS: South African National Standard

VO: Variation Order

QMS: Quality Management System

WBS: Work Breakdown Structure

DEFINITIONS (applicable to Pr CM and Pr CPM registration and related activities) may be relevant to your report.

The terminology referring to industry service providers is coordinated between the various professional councils and the PROCSA agreements (**5th edition 2021**) typically used in the private sector professional appointments or the CIDB Professional Services Contract (**3rd edition 2009**) to appoint:

"**agent**" is a 'competent person' who acts as a representative of the 'client' to provide stipulated services or expert advice professionally.

"**clien**t" is a person or company who appoints an 'agent' "for a professional service" – used interchangeably with '**employer**' who appoints the 'principal contractor ' "to acquire a product".

"**competent person**" has the required knowledge, training and experience and, where applicable, qualifications specific to that work or task recognised in the National Qualifications Framework Act 67 of 2008.

"**designer**" is a 'competent person' appointed by the 'client' to prepare the design and specifications for the permanent works (and occasionally the temporary works), *to check and or coordinate designs by others* (see principal consultant below) for the preparation of the appropriate Construction Documentation – generally involving the architect and/or the interior designer, civil, structural and services engineers, nominated or direct contractors offering a (patent) design-supply-install-(and maintain?) service and/or landscape architects. Where the Principal Contractor offers a 'design and build' or 'turnkey' solution (work-stages typically 3 to 4), he/she assumes responsibility for all Agents' services under its control.

Note: If the Employer chooses a 'design and build' contract option much of the execution risk is transferred to the Contractor – but the success of the project entirely depends on how well the project is initiated, defined and communicated at the end of work-stages 1 and 2 by the Employer.

"**principal agent**" is appointed by the 'client' (using PROCSA, CIDB, FIDIC or NEC 'service level' agreements) with full authority and obligation to act in terms of the construction contract, typically during work-stages (4), 5 and 6.

"**principal consultant**" is appointed by the 'client' (using PROCSA, CIDB, FIDIC or NEC 'service level' agreements) to coordinate and manage the work of other consultants (agents), typically during work-stages (2), 3 and 4.

"**principal contractor**" is appointed by the 'employer' to execute the works in terms of the chosen Standard-form (construction) Contract (SfC) (using FIDIC, GCC, JBCC or NEC agreements) during work-stages (4), 5 and 6.

"**stakeholder**"
(PMI/ISO definition) refers to "an individual, group, or organisation, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project".

Note:
In the South African context Stakeholder terminology has often been applied to criminal elements who claim to represent the community living adjacent to the project (calling themselves the Business Forum or political stakeholders) demanding payment to provide labour – who often don't exist and /or don't get paid.

EXAMPLES to illustrate the content of reports

Project Objectives (may not apply – often prepared by Client before a Pr CPM is appointed).

The need for a new project is usually assessed within the client organisation without (or with limited) involvement of outside consultants to generally determine:
• the extent and location of a new / refurbished 'facility',
• the provision of special equipment and/or services,
• the identification of essential participants,
• the likely project duration and
• a first budget guestimate.

The location of a project may depend on the preparation of a preliminary brief to define:
• the approximate size of the 'facility' – if on one or more storeys and consequently …
• the minimum site area – allowing for one or more extensions.
• The location may be determined by proximity to customers, suppliers, availability of labour, etc

A "project proposal report" (1st business case) is compiled (preferably in the PMBOK format) and submitted to the next higher level of 'management' for comment and/or approval – appendices may include environmental impact study, traffic study, market research, funding proposals, etc

On approval of the proposal, or a modified version thereof, the necessary resources must be made available to appoint core consultants to develop the project brief (project charter) to the next review phase / stage.

1. Project Integration Management

PMBOK 6th Edition 2017: ..."**includes the processes and activities to identify, define, combine, unify and co-ordinate the various processes and project management activities within the five Project Management Process Groups**"

- A Pr CPM applicant – must identify and combine the constituent entities or tasks comprising a project.

- For a Pr CM applicant - this provides the background to plan and re-source (conventional) construction activities, or the requirements for 'turnkey/design + build contract.

Application during the six work stages:

1. PROJECT INITIATION AND BRIEFING
The need for a project in general terms should have been assessed in work-stage 0 and agreed to proceed. Timeously identify key performance aspects against which the success of the project will be assessed by the developer and/or the end user:

1. Scope of Works – extent, inclusion and useability of spaces and facilities
2. Incorporate lessons from previous (similar) projects
3. Cooperation with (business and 'political') Stakeholders
4. Identification of long lead time items and/or special skills or techniques
5. Completion to specified quality standards
6. Completion within agreed (construction) period
7. Completion within agreed project budget
8. Compliance with applicable statutory and regulatory standards

---

Quotations from previous applications to illustrate the content of a report:

"Project Integration Management (PIM) is the systematic processes to coordinate all activities of a project - including tasks, resources, stakeholders, and any other elements in addition to managing possible conflicts between aspects of a project by making trade-offs between competing requests."

"PIM may also apply to the management of multiple projects within the same organisation competing for limited resources."

"PIM can become very difficult to implement when 'stakeholders' do not respond with correct and timeous information, instructions or decisions within authorised limits nor follow agreed project communication procedures."

"Projects do not achieve practical or works completion on their own. It requires constant checks, follow-up and feedback from members of the project team."
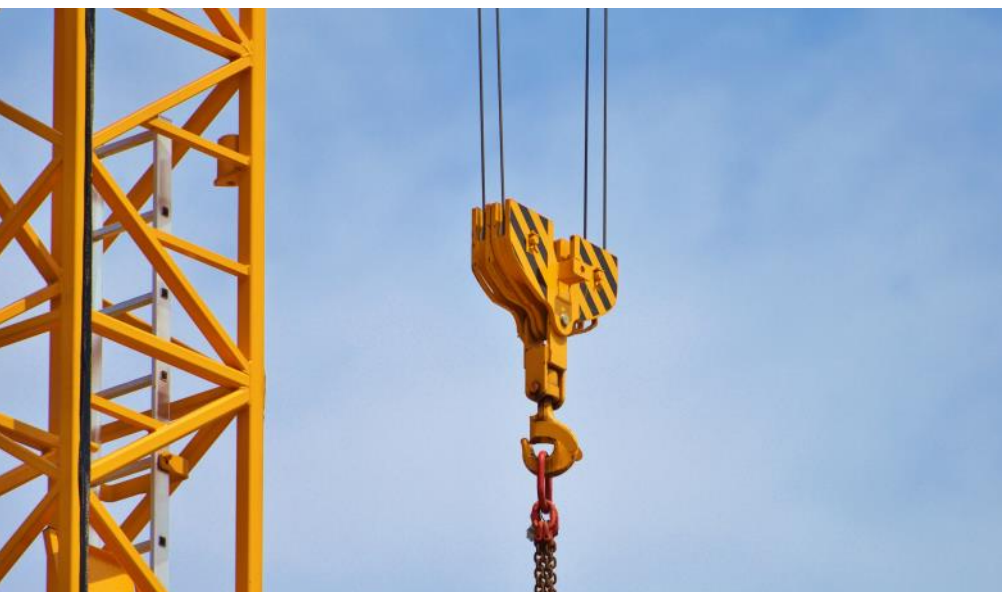
2. CONCEPT, FEASIBILITY AND VIABILITY

The project parameters defined in the Brief must identify the business-social-natural environment where the project is to be located and consequently the stakeholders who may influence project implementation and potential feasibility (how practical) and the viability (capital cost compared to income).

During the *project initiation phase* such high level assessment seeks to justify proceeding with the project - and/or invest in more detailed studies.

An option may be to abort a project if the 'criteria for success' have changed. The choice of 'conventional design by employer' option or 'design by contractor' option will determine the nature and type of documentation required and the Standard-form Contract to be used.

Note that the 'design by contractor' option still requires the appointment of a Client Representative person/team to liaise with contractors and users ensuring that client policies and standards are observed/achieved.

Can lessons learned from previous projects be incorporated?

3. DESIGN DEVELOPMENT

Identify unique aspects such as the location / flow and layout of spaces / equipment to be installed / statutory compliances etc to be researched or procured for inclusion in the design to meet the defined objectives.

Consider how the 'design' is to be constructed from a Health & Safety consideration and/or/ techniques or equipment required – if not conventional construction. If novel construction methods or materials are chosen – is the employer or the contractor or the consultant at risk should they 'fail'?

Have any errors or omissions in the (revised) brief been identified?

4. TENDER DOCUMENTATION AND PROCUREMENT

The choice of 'conventional design by employer' option or 'design by contractor' option will determine the nature and type of documentation required and the Standard-form Contract to be used. Identify or consider preferred procurement options - this will determine the type and content of the tender and construction documentation.

Thus, the following question should be considered: Must procurement processes recognise specialist suppliers or contractors outside the normal process? Must the procurement processes involve the local community as 'contractors'?

5. CONSTRUCTION DOCUMENTATION & MANAGEMENT

Identify unique aspects/equipment/statutory compliances etc to be researched or that may require early (principal) contractor involvement to meet the defined objectives.

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised Brief, resulting in lessons learnt for future projects.

2. Project Scope Management

The PMBOK 6th Edition 2017… **"includes the processes required to ensure the project includes all the work required, and only the work required, to complete the project successfully"**

- A Pr CPM applicant must identify and asses all constituent aspects comprising a project to incorporate such information in the 'Project Charter'/'Project Brief' in a manner that is easily understood by others to guide the implementation of a project.

- A Pr CM applicant – as for Pr CPM if a 'turnkey'/'design and build' contract.

Note: In the UK, the Cabinet Office/Minister (during 2022) commissioned an independent review of procedures used in the construction industry for public works as the 'gold standard' to improve productivity by the early involvement of contractors and suppliers who can assist and speed up the design phase, production of construction documentation and simpler building solutions through 'modern methods of construction' or 'early supply chain involvement'.

See HTTPS://www.gov.uk/government/news/launching-the-independent-review-of-construction-frameworks.

Application during the 6 work stages:

1. PROJECT INITIATION AND BRIEFING

Timeously identify key performance aspects of a project and the facilities and/or equipment required for incorporation in the Brief. The required items listed must be verified 'as needed', possible omissions should be identified as well as unusual items with a long lead delivery time, and compliance with statutory regulations (PFMA, OH&SA, SANS 1200, etc) and/or performance standards (SABS, ISO, BS etc).

*Note: Consider the **MoSCcoW** system- an acronym derived from the first letter of each of four prioritization categories: M - Must have, S - Should have, C - Could have, W - Won't have.*

The success of a project is totally dependent on how comprehensive and accurate the information provided in the Project Brief is to avoid subsequent change orders to incorporate or omit aspects of the project that have not been adequately researched, consulted or agreed by project Stakeholders and funders.

Quotations from previous applications to illustrate the content of a report:

"Project Scope Management (PSM) may be divided into the client's statement of the extent of the Works, materials and other operational features required compared to the execution of the work (methods, tools and materials required) to be carried out by the principal contractor and each subcontractor under his control to comply with the client's brief." (and/or the involvement of direct contractors under control of the Employer)

"Failure to define what's part of the project, as well as what's not, may result in unnecessary work being performed that can negatively impact on the programme and the budget."

"If notifications for extra work or changes to the scope are not formally instructed and additional costs agreed with the client, then I, as the contractor, simply stick to the actual agreed work set out in the contract."

Consider the business – social – natural environment where the project is to be located and consequently the influence of 'political stakeholders' on the implementation of the project and its feasibility and/or viability.

Note: The CIDB published on 31 October 2017 a 'Standard for Contract Participation Goals for targeting enterprises and labour through Construction Works Contracts' (Government Gazette No 41237 dated 10 November 2017) dealing with procedures, appointment of a Community Liaison Officer, etc applicable to the Expanded Public Works Programme (EPWP).

2. CONCEPT, FEASIBILITY AND VIABILITY

Consider in general terms the physical extent or nature of the facilities and/or equipment to be provided to develop the project concept and to determine a concept

budget – to about 66% accuracy based on historical information or similar facilities within the industry.

Preferably two or more alternative high-level solutions should be developed to determine the optimum solution measured against the key performance criteria specified in the Brief to be practical (feasible) and/or affordable (viable).

If any errors or omissions in the Brief have been identified the Project Brief may have to be revised. At this stage the scope should be fully defined - *often referred to as 'scope freeze'.*

The Employer must decide if the execution of the project will follow the 'conventional design by Employer' option, or 'design by Contractor' option, or if 'modern methods of construction' or 'early supply chain involvement' during "design" is required to prepare Construction Documentation compatible with the Standard-form Contract chosen.

Note: For 'design by Contractor' – to be successful – still requires the appointment of (in-house or independent) consultants to represent the employer to ensure relevant design and/or construction information is exchanged and approvals are obtained before proceeding to next work-stage – and to observe critical construction and commissioning processes for compliance with specified standards and/or regulations.

3. DESIGN DEVELOPMENT

Before 'design development' – this is the 'last opportunity' to revise or amend the Brief without incurring delays and additional costs – *often referred to as 'design freeze'.*

4. TENDER DOCUMENTATION AND PROCUREMENT

The type and style of tender documentation will depend on the preferred procurement options -

describing the rights and obligations of the parties, the type of documentation to be produced and the appropriate procurement processes,

It may be appropriate to separately procure long lead time items outside the normal procurement process or to facilitate early (principal) Contractor involvement to guide the 'constructability' of the (proposed) design.

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

The choice of 'conventional design by employer' option or 'design by contractor' option will determine the nature and type of documentation required and the Standard-form Contract to be used.

'Imagineer' how the concept design / design development is to be constructed (H&S, availability of materials, special construction equipment, skills, etc) and the completed facility is to be used.

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original/ revised Project Brief, resulting in 'lessons learnt' for future projects. Deviations from the approved Brief must be 'authorised'

Quotations from previous applications to illustrate the content of a report:

"In one scenario the engineer instructed the contractor to commence work from the 'tender drawings' stating there would be no or minimal changes. After the 'working drawings' were received, significant changes were noted involving abortive work.

The contractor failed to immediately give notice of a potential claim within the period stipulated in the contract. His claim for additional time and cost was rejected. The matter had to be resolved by following the dispute resolution provisions in the contract."

"Where construction information provided is incomplete and not corrected timeously, the contractor builds what he thinks is correct …"

3. Project Time Management

PMBOK 6th Edition 2017 … "**includes the processes required to manage the timely completion of the project**".

- A Pr CPM applicant - must be able to programme the implementation of the Works as a whole to measure progress against key performance dates; and take corrective action when delays occur.

- A Pr CM applicant - must be able to programme, plan and resource the construction activities for the Construction Works to measure progress against contractual performance dates; and take corrective action when delays occur to the critical path in compliance with the Standard-form Contract signed.

The programme must show:

- each task and its duration (and resources required),
- the sequence in which they must occur relative to one another,
- ability to determine the critical path to complete (a portion of) the works, with the
- ability to show planned and actual progress, (detail 'lookahead' window), with the
- ability to model different scenarios – sequences, resource allocation etc

Application during the 6 work stages:

1. PROJECT INITIATION AND BRIEFING

Project Implementation Programme

Allow adequate time to competently compile the Brief involving relevant stakeholders. The more comprehensively this stage is executed the less likely will be the need for changes orders and rework resulting in delays to completion and additional costs.

2. CONCEPT, FEASIBILITY AND VIABILITY

Design Concept Programme

Allow adequate time to competently develop and assess a project concept to envision how the final product must function – and choose and option to develop further.

Check if any errors or omissions in the (revised) Brief have been identified that may change the design and delay construction

3. DESIGN DEVELOPMENT

Allow adequate time to competently develop the preferred concept option as the definitive design and to deal with statutory approvals.

Design Development Programme

Check if any errors or omissions in the (revised) Brief have been identified that may change the design and delay construction.

4. TENDER DOCUMENTATION AND PROCUREMENT

Allow adequate time to compile comprehensive tender documentation and sufficient time to tender the Works. Clarify the preferred procurement options - prepare tender documentation accordingly.

Procurement Programme

5. CONSTRUCTION DOCUMENTATION & MANAGEMENT

Allow adequate time to complete construction documentation to timeously issue same to the contractor(s). Allow adequate time to realistically build the chosen design – use of construction equipment, involvement of local community contractors, etc

Documentation Programme + Construction Programme

The appointment of subcontractor(s)

QUOTATIONS FROM PREVIOUS APPLICATIONS TO ILLUSTRATE THE CONTENT OF A REPORT:

"Delays to the execution of the contractor's work resulting in changes to the programme may include:

* when access to the works or some sections thereof was not granted in terms of the programme;
* Late payment by the client;
* Late response to Requests For Information (RFI) sent to consultants, due to errors on drawings that require instructions from the engineers and architects;
* Frustrations from the Business Forum;
* Delays from material suppliers;

We (contractor) kept a daily site diary that was submitted to the engineer for signature and record. This was proof that we could not work efficiently and as a result we were losing money. A notification letter was formally submitted, and a compensation event was drawn up detailing the cost and days lost due to lack of access."

"Streamlining operations is key to create an effective and efficient environment. An example being preloading blockwork at night frees up crane hook time during the day to work on critical path items. During such time an early start on finishes can be undertaken."

"Reluctance by consultants to accept responsibility for their (in) action – is not uncommon!"

may require reconsideration of some tasks, resources, or other elements.

6. PROJECT CLOSE OUT

Allow adequate time to complete the outstanding construction work (defect liability period) and close-out documentation, final account etc.

4. Project Cost Management

PMBOK 6ᵗʰ Edition 2017 … "**includes the processes involved in planning, budgeting, financing, funding, managing and controlling costs so that the project can be completed within the approved budget**".

- A Pr CPM applicant - must be able to realistically asses the cost to varying accuracy depending on the work-stage of a project from experience, similar recent projects, or advice from 'cost engineers' to monitor and manage the costs incurred compared to the project budget and to certify payments.

- A Pr CM applicant - must be able to realistically cost a project at tender stage based on experience, similar recent projects, suppliers or advice from 'cost engineers' to monitor and manage expenses during construction to claim from the employer – and to pay debtors.

Compile a bill of quantities (BoQ) or similar cost management document:

1. Identify relevant costs including professional, statutory and regulatory charges,
2. Compile a rate for a task or an event – (fixed/variable costs + profit),
3. Facilitate the 'viability study' of a project using the 'initial return on investment' and/or the 'cash flow technique over a predetermined period', or other methods agreed with the Employer. *[Refer to the annual AECOM 'Africa Property & Construction Cost Guide – section 9 'return on investment']*
   Note: A project may be 'feasible' (practical) but not 'viable' (too expensive) – this phase seeks to determine the optimum balance between 'feasibility' and 'viability'.
4. 'cost' a BoQ as the budget for the Employer,
5. 'cost' a BoQ and submit as a Contractor's tender,
6. Use a BoQ to monitor costs as work proceeds,
7. Submit regular cost reports to the Employer /Contractor,
8. Identify 'deviations from the 'approved budget' / initiate corrective action,
9. Compile regular claims for payment,
10. Asses claims to issue regular payment certificates,
11. Compile the Final Account claim,
12. Asses Final Account claim to issue the Final Payment Certificate.

Application during the six work stages:

1. PROJECT INITIATION AND BRIEFING

When compiling the Brief consider in general terms the physical extent or nature of the facilities and/or equipment to be provided, possibly with a first guestimate of all likely costs prepared by the employer.

2. CONCEPT, FEASIBILITY AND VIABILITY

Interpret the Brief by developing two or more possible solutions – evaluate the options as if this was the finished product – confirm that each option is feasible (practical) / is viable (affordable) and will achieve the project objectives?

Are typical comparative industry costs available for the proposed project?

The project budget should obviously include the building costs, professional fees and statutory charges and, if applicable, land acquisition costs, enabling works, finance charges, client oversight (head office) costs, relocation charges, new furniture and (office) equipment, promotion of new premises, new stationery etc.

On authority to proceed develop the chosen project concept and determine and administer the project budget to about 66% accuracy based on historical information or similar facilities within the industry. (note – AECOM publish an annual building/infrastructure guide as a free download).

Have any errors or omissions in the Brief been identified? If yes, issue a revised Brief and/or a revised budget and/or the project time schedule.

3. DESIGN DEVELOPMENT

On authority to proceed - develop the preferred 'feasible and viable option' – and confirm it will meet the defined project objectives – including those validly requested by 'stakeholders'. Have any errors or omissions in the Brief been identified? If yes, issue revised Brief and/or revise the budget and/or the project time schedule.

There should be no changes to the defined scope after this stage = design freeze – if yes, these are likely to cause delays and additional costs.

Review and administer the design budget to 75 to 80% accuracy based on an elemental or order of magnitude estimate.

Quotations from previous applications to illustrate the content of a report:

"If the work is done properly the first time, this avoids rework due to poor workmanship. The cost of preventing a mistake is far less than correcting a mistake during execution."

"The cost of conformance is a known and fixed for the work, training, use of equipment and time. The cost of nonconformance is unknown for abortive time spent on rework or scrap work."

"At tender stage, no provision is made for re-works as this will throw the final tender amount way out, hence minimising chances of being the lowest and winning the tender."

"Non-payment of subcontractor's staff - I called each subcontractor individually – told them that we will keep a portion of their payment to pay their labourers first and only then will we pay the outstanding amount. I tasked the community liaison officer to check that this happened…"

4. TENDER DOCUMENTATION AND PROCUREMENT

On authority to proceed - prepare tender documentation in terms of the procurement policies.

Prepare and administer the procurement budget to about 90% accuracy based on a priced Bill of Quantities or similar.

Identify and assess any variations between the budget and prices quoted for the project – due to opportunistic pricing, budget errors, resource shortages?

Can such matters be resolved by design or specification changes without compromising the project objectives? If so, will this delay the project to revise construction documentation?

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

On authority to proceed prepare contract documentation for signature before possession of the site by the contractor.

Prepare and administer the construction budget – to 100% accuracy based accepted tender price.

6. PROJECT CLOSE OUT

Prepare the contract close out documentation – H&S file, as built documentation, warranties etc ensure insurance risks are passed to the employer.

Prepare a reconciliation between the budget and the (agreed) project Final Account.

- Certify the final payment to conclude the project,
- Cancel performance/payment guarantees.

Identify variances to the budget during the project lifecycle – and lessons so learnt.

5. Project Quality Management

PMBOK 6ᵗʰ Edition 2017 … "**includes the processes for incorporating the organizations quality policy regarding planning, managing and controlling project and product quality requirements in order to meet stakeholder expectations**".

- A Pr CPM applicant - must, in consultation with the Employer, determine quality standards 'appropriate to the project':

  1. based on recognised / published information with measurable / enforceable criteria,
  2. recorded in the Construction Documentation.

- A Pr CM applicant - must be able to interpret the Employer's quality specification by:
  1. preparing a project specific quality plan,
  2. implementing the Contractor's quality management system (ISO etc) (supplier warranties, checklists, test reports from laboratories etc),
  3. assess assurance of the work / compliance and, if required, institute corrective action.

Application during the 6 work stages:

1. PROJECT INITIATION AND BRIEFING

When compiling the Brief consider in general terms quality criteria and/or standards appropriate/applicable to this project.

There is no universal definition of 'quality'. The interpretation of quality is often subjective, potentially resulting in disagreements. "Quality" should be defined using neutral - recognised standards and tools to measure if specified criteria have been achieved. Different applications may require different standards of 'quality'. Better quality generally costs more money and may not be necessary for the particular project. 'Appropriate quality' must be defined at project initiation!

A project may be regarded as successful if certain specified criteria are met – but may 'fail' if end-user requirements have not been understood by the project team or met.

Quotations from previous applications to illustrate the content of a report:

"Project Quality Management (PQM) is the processes to establish project appropriate standards and determine the steps required to achieve and to conform to those standards."

"From a contractor's perspective a Quality Management System is a process of continuous improvement covering all aspects of the construction project with commitment and teamwork, involving the chief executive officer, filtered throughout the entire construction site.

Typically, internal, and external inspectors will conduct tests for soil compaction, concrete strength, welding etc during and after work. It is important to ensure the right (building) materials are checked before the execution of work. Proper quality management will reduce the number of mistakes and rework in a project."

2. CONCEPT, FEASIBILITY AND VIABILITY

Interpret the Brief by developing two or more possible solutions in terms of the identified quality criteria and/or standards – evaluate the options 'as if this was the finished product' – confirm if the option is feasible (practical) / is viable (affordable) and will achieve the project objectives?

The definition of 'project specific quality' is critical to determine the feasibility and viability of a concept.

On authority to proceed develop the project concept incorporating project specific quality criteria and/or standards.

Check if any errors or omissions in the Brief have been identified? If yes, revise and (re)issue the Brief and/or revise the budget and/or the project time schedule.

3. DESIGN DEVELOPMENT

On authority to proceed - develop the preferred option incorporating specified (corporate) quality criteria and/or (industry) standards – and confirm if these will meet the defined project objectives?

Check if any errors or omissions in the Brief have been identified? If yes, revise and (re)issue the Brief and/or revise the budget and/or the project time schedule.

There should be no changes to the defined scope after this stage (design freeze!) – if yes, they are likely to cause delays and additional costs.

Confirm that specified quality assurance criteria and/or standards are appropriate/can be achieved in the final design solution.

The choice of 'conventional design by employer' option or 'design by contractor' option will determine the nature and type of documentation required and the Standard-form Contract to be used.

Quotations from previous applications to illustrate the content of a report:

"Project Manager: Some contractors tend to ignore specified materials and use the alternative or wrong materials that may result in defects during or before the handover of the project. Replacing the specified items with other brands or materials that don't offer the same quality can result in unhappy clients and time-consuming rework requests."

A Project Manager noted: "Experienced serious difficulties enforcing quality management criteria where the end-users were not the parties involved in determining the design/ project brief."

4. TENDER DOCUMENTATION AND PROCUREMENT

On authority to proceed - prepare tender documentation incorporating quality assurance criteria and/or standards.

Determine whether the project must comply with corporate or industry standard wording/layout specifications or procedures.

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

On authority to proceed prepare contract documentation for signature before possession of the site by the contractor.

Administer and monitor the execution of the works to ensure specified quality criteria and/or standards are met.

6. PROJECT CLOSE OUT

Prepare the contract close out documentation – Health & Safety file, as built documentation, warranties etc incorporating tests/ commissioning results for specified quality assurance criteria and/or standards.

Identify variances to the specified quality criteria and/or standards during the project lifecycle:

- Assess if any 'maintenance' issues are likely to arise from reduced/compromised 'quality' standards;
- Assess consequences arising from partial/limited compliance;
- Lessons learnt.

Quotations from previous applications to illustrate the content of a report:

"In construction over half of construction defects can be attributed to human error. Screening subcontractors and other labour providers is essential to verify they're supplying skilled laborers that can catch their own mistakes. However, construction firms and project managers still need to follow up with independent audits of subcontractor performance to find any problems as early as possible."

"Construction Manager: Many of my frustrations and challenges come from poor workmanship, incorrect ordering of material which leads to down time, poor quality on deliverables, delays on the project and extra costs to rectify such mistakes while tainting the reputation of my organization. To avoid poor workmanship, I make sure that all personnel on site are given appropriate training before execution phase starts."

A Project Manager's observation: "as we were compelled to employ local SMME'S, achieving specified quality expected the first time … we had to redo the work and face challenges at month end when doing payments as some companies demanded more money forgetting that they had to redo some work over again due to their lack of skills … some workmanship errors can go unnoticed for years!"
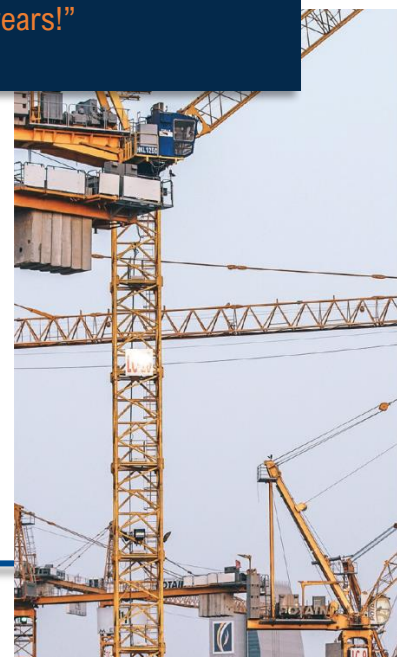
6. Project Human Resources Management

Quotations from previous applications to illustrate the content of a report:

"Project Human Resources Management (PHRM) - The basic HR roles and responsibilities in construction are unlike those in other industries, require:

- forecasting: As construction is project-based, the duties and responsibilities of the HR manager include liaising with construction managers, site agents, project managers, (sub)contractors, and others to identify and document each project's unique requirements and the end-to-end processes required on a project (or series of projects)

- hiring: Seek and recruit qualified, experienced applicants with the necessary skills. Because construction work includes many specialized jobs, the talent pool for such jobs may be quite small.

- training: Ensure that employees are properly trained and licensed to perform the required tasks, use the necessary equipment, and meet any unique requirements of a construction project.

- compensation and benefits plans: Offer competitive pay and benefits such as 'home visits from rural sites, contributions to pension fund and healthcare plans, which are especially important to construction workers whose livelihood depends on their health.

- worker safety: Is a key concern in construction as accidents and injuries can easily occur. Ensure the company implements all appropriate safety precautions and procedures and monitors adherence thereto by all staff.

- employee retention - Losing skilled workers in the middle of a project can leave a construction company unable to meet its project completion deadline. Develop incentives to keep employees working until the project is finished and encourage them to want to stay with the company for future projects.

- compliance: staff must stay up to date on the myriad of safety regulations that apply to the construction industry and keep their organizations in compliance."

PMBOK 6th Edition 2017 … "**includes the processes that organise, manage, and lead the project team**".

- A Pr CPM applicant - must, in consultation with the employer to recommend:
    1. Professional skills required for the execution of the project,
    2. Agree the scope for each discipline, when appointed to suit the design and documentation programmes,
    3. Role of each discipline during execution/commissioning / hand-over to Employer.

- A Pr CM applicant - must determine on award of the contract:
    1. which skills are required, when and for how long,
    2. which skills are available within the company – busy on other projects – when available,
    3. staff to be recruited on a contract basis,
    4. Appointment of local community members,
    5. Training and team building – company policy.

Application during the six work stages:

1. PROJECT INITIATION & BRIEFING

Timeously identify' project specific 'expertise requirements' for incorporation in the Brief. Determine applicable policies to recruit professional or technical staff, service level agreements etc?

2. CONCEPT, FEASIBILITY AND VIABILITY

Interpret the Brief by developing two or more possible solutions – evaluate the options as if this was the intended finished product – Is it practical? Is it affordable? Achieve the objectives?

How will the availability of 'varying expertise levels' influence the implementation of the project?

Assess the contribution to the success of the project made by specified Human Resource criteria.

Have any errors or omissions in the Brief been identified? If yes, issue a revised Brief.

3. DESIGN DEVELOPMENT

Develop the preferred option – will it meet the defined objectives using available or special skills?

Assess the contribution to the success of the project made by Human Resource management.

Have any errors or omissions in the (revised) Brief been identified?

Quotations from previous applications to illustrate the content of a report:

Project Manager: "To meet the client's requirements and satisfy the project feasibility all consultants needed to provide a discount of 35% on their tariff of fees. Despite all consultants being aware of this requirement before signing their PROCSA agreements with the client, there were challenges with certain design consultants not attending site inspections as well as producing slow/inadequate construction information - justifying this behaviour due to the limited resources and number of hours that had been allocated to the project based on their discounted fees."

"Labour is one of the most expensive aspects in any project, so the Project Manager must use people involved in a project in the most effective way possible to reach set goals."

"State Contracts often specify that 30% of the value of a contract must be awarded to members of the local community. The required skills are frequently not available – time is spent to train staff according to their aptitude only to find that the work is not up to standard – they then walk off the job leaving the principal contractor to seek and train more people whilst the project is delayed – attracting protests from the local community for poor service delivery!"

Construction Manager: "There are challenges affecting the entry of artisans into the construction industry. Often poor on-site working conditions, compliance with health and safety regulations, employee welfare facilities and the mobility of labour due to its project-based nature requiring many construction workers to continually to relocate in pursuit of new project opportunities."

4. TENDER DOCUMENTATION AND PROCUREMENT

Clarify the preferred procurement options, highlighting specific Human Resource management requirements and prepare tender documentation accordingly.

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

The appointment of the Contractor(s) may require reconsideration of some tasks, expertise, resources, or other elements.

How will specific Human Resource requirements be dealt with – part of the contractor / subcontractors' appointment or as a 'labour only' contract?

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised Brief, resulting in lessons learnt for future projects.

7. Project Communications Management

PMBOK 6ᵗʰ Edition 2017 … **"includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control and ultimate disposition of project information"**.

- A Pr CPM applicant – must produce a 'communication plan':
  1. in consultation with the **project** team members to,
  2. record who has defined authority to 'sign of' or 'instruct' work,
  3. who must be copied with such information etc,
  4. the distribution of hard and soft copy documents,
  5. use of 'reporting forms' within a specified response time for the type of document.

- A Pr CPM applicant – provide and issue project documentation typically including:
  1. Project Charter / Brief
  2. Design Concept Report
  3. Design Development Report
  4. Presentations, as required
  5. Issue of Construction Documentation
  6. Statutory and regulatory approvals
  7. Contractor's Method Statements
  8. Regular Progress Reports to Employer
  9. Lists for completion / defects lists
  10. Regular Cost Reports to Employer
  11. Regular payment claims / issue payment certificates
  12. Assess and agree Final Account claims / issue Final Payment Certificate
  13. Minutes of (all) meetings, etc

- A Pr CM applicant – as for the Pr CPM, but for **construction** team members.

- A Pr CPM and a Pr CM must compile respective distribution matrixes, for example:

Issued by	Document	Purpose	Employer	Principal Contractor	Quantity Surveyor	Structural Engineer	S Community Liaison officer		S Steel subcontractor
Distribution by: e-mail '@' | hard copy "#"			@	@ +2 #	@ +2 #		#		
Principal agent	Site meeting minutes	information	@	@	@	@	#		
Quantity Surveyor	Tender /BoQ	approval	@						
Environment Cons	Design report	approval	@		@				
Principal Contractor	Steel SubC contract	information	@		@	@			@

Quotations from previous applications to illustrate the content of a report:

"The efficiency of the construction process relies upon the quality of communication."

"I utilize a 'communication matrix' that clearly states the description of meetings required during the project, the format to be used, the frequency of such meetings, how the records are going to be kept, stakeholders expected to attend and who is responsible for the distribution of such records."

Application during the six work stages:

1 PROJECT INITIATION AND BRIEFING

Identify key Parties/Stakeholders to be included in project communications according to decision making authority - or to be copied for information using electronic and/or hard copy media.

This will vary with the project work-stage

2 CONCEPT, FEASIBILITY AND VIABILITY

Interpret the Brief by developing two or more possible solutions – evaluate the options as if this was the intended finished product – Is it practical? Is it affordable? Achieve the objectives?

Ensure that relevant Parties/Stakeholders are consulted or copied with project information.

Confirm and document who has the "authority" to 'comment' and/or 'make decisions'.

Have any errors or omissions in the Brief been identified? If yes, issue revised Brief.

3. DESIGN DEVELOPMENT

Develop the preferred option – will it meet the defined objectives?

Ensure that relevant Parties/Stakeholders are consulted or copied with project information.

Confirm and document who has the "authority" to 'comment' and/or 'make decisions'. Have any errors or omissions in the (revised) Brief been identified?

4. TENDER DOCUMENTATION AND PROCUREMENT

Clarify the preferred procurement options - prepare tender documentation accordingly.

Ensure that relevant Parties/Stakeholders are consulted or copied with project information.

Confirm and document who has the "authority" to 'comment' and/or 'make decisions'.

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

The appointment of the Contractor(s) may require reconsideration of some tasks, resources, or other elements.

Ensure that relevant Parties/Stakeholders are consulted or copied with project information.

Confirm and document who has the "authority" to 'comment' and/or 'make decisions'.

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised Brief, resulting in lessons learnt for future projects.

Ensure that relevant Parties/Stakeholders are consulted or copied with project information. Including H&S file, as-built documentation, commissioning test results, product warranties and guarantees, the signed final account – to suite the project.

Quotations from previous applications to illustrate the content of a report:

"My clients have contributed unnecessary stress to my life by changing their expectations after we spent considerable time discussing a project together."

"It's also important to report through the proper channels. If your communication was misdirected you may think you've received the proper authorization, but if the correct person didn't sign off on your proposal, you could be headed for a dispute."

"Part of the success for project was the fact that all parties used the same versions of software so that no layering on drawings and data could be lost as a result of variations in software. It was decided that a drawing was not formally issued to site unless it was issued on the server in .dwg and .pdf format. The contractor was to allow for printing on site as part of their P&G costs."

8. Project Risk Management
(including Health and Safety Issues)

Quotations from previous applications to illustrate the content of a report:

"Project Risk Management (PRM) is a comprehensive and systematic way of identifying, analysing and responding to risks to achieve the project objectives to improve construction project management processes and effectively use of resources."

Construction Manager: "To identify all potential hazards (unwanted events) with a high probability of occurrence leading to lost time on site or cause harm to employees.

During construction stage - I prepare to implement risk prevention strategies including:

- Schedule variance;
- Quality related issues;
- Scope creep;
- Team effort variance.

These items are monitored and recorded continuously as input in monthly risk analysis reports."

Construction Manager: "Every time - before a new task can commence, we do a risk assessment with all team members' inputs. By involving all team members in the discussion (who must sign the attendance register) makes it easier for everyone to be vigilant on site."

PMBOK 6th Edition 2017 … "**includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation and monitoring of risks on a project**."

- A Pr CPM applicant must 'identify, assess and mitigate project risks' in all ten knowledge areas and all six work -stages recorded in a 'risk register' that is regularly reviewed and reported in accordance with the 'risk management plan'.

- A Pr CM applicant, as for the Pr CPM, must 'identify, assess and mitigate construction risks' and report to the project team. Similarly regularly reporting health and safety matters in the prescribed format.

- The Pr CPM or the Pr CM may issue an 'early warning' to the other as a 'risk' is identified – not limited only the use of NEC Standard-form Contracts.

CORE TABLE: Probability x Maximum Impact						
Risk Score		Impact = TIME – MONEYRISK S - QUALITY				
		1	2	3	4	5
	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

RISK ASSESMENT: Quality – Time - Money					
Assessment	**Probability**		**Quality Impact**	**Time Impact**	**Money Impact**
1	<10%	Rare	Insignificant	< 2 weeks	< 0.1%
2	10-25%	Low	Medium = follow up	2 weeks – 1 month	0.1-0.5%
3	25-50%	Medium	High = control+formal checking	1-3 months	0.5-1%
4	50-80%	Real Chance		3-6 months	1-2%
5	80-100%	Almost certain		> 6 months	> 2 %

- A Pr CPM and/or a PR CM applicant, with the **project** team members, must produce a 'risk management plan':

-
  1. Identify possible risks that may influence or even jeopardise the project,
  2. Group risks as 'financial', 'labour', 'materials', 'construction equipment', 'geotechnical matters', etc
  3. Sort as a matrix the identified risks according to 'how likely' and the 'impact' of such events occurring,
  4. Identify possible risk mitigation measures, and
  5. Record such information in a 'risk register', retain and regularly - review until practical completion.

- The Pr CPM or the Pr CM (and the Employer and the (Principal) Contractor) must understand and apply their responsibilities in compliance with the Occupational Health and Safety Act, 1993 [OHSA] and the Construction Regulations, 2014[CR14]:

  * Clause 3 – Client (Employer) must obtain a Construction Permit for the project before start of work.

  * Clause 5 - Client (Employer) must prepare a 'baseline risk assessment' for the intended work for issue to the designer to prepare a 'health and safety specification' for issue to the (Principal) Contractor to prepare his/her 'health and safety plan' for approval by the client – who must monitor compliance during implementation – and suspend work due to non-compliance.

  * Clause 5(5) – Client must appoint in writing a (registered) competent person to manage 'H&S' for the Client >

* Clause 16. (OHSA) describes the duties of the Chief Executive Officer to mandate the Employer 16.1 (Project Director), or 16.2 Employer's Representative must be appointed as the responsible person.

* Clauses …The (Principal) Contractor must appoint in writing a (registered) full time competent person = 8.1 as a Construction Manager, 8.2 as an assistant Construction Manager, 8.5 as a full/part time safety officer(s), 8.7 as a construction supervisor(s) and 8.8 as assistant construction supervisor(s).

* Clause 12 - The (Principal) Contractor must appoint a competent person to design, inspect and approve the erected temporary works.

* It is good practice to record such appointments on a project organigram displayed in the site office.

Application during the 6 work stages:

1. PROJECT INITIATION AND BRIEFING

Identify, for incorporation in the Brief, possible project / construction risks that may prevent successful implementation of the proposed project if not dealt with. Are some of the identified risks 'insurable'?

2. CONCEPT, FEASIBILITY AND VIABILITY

Interpret the Brief by developing two or more possible solutions – evaluate the options as if this was the intended finished product – Is it practical? Is it affordable? Achieve the objectives?

Identify possible project risks that may prevent successful implementation of each option as well as the Parties/Stakeholders responsible for the mitigation of such risks. Have any errors or omissions in the Brief been identified? If yes, issue revised Brief.

3. DESIGN DEVELOPMENT

Develop the preferred option – will it meet the defined objectives?

In addition to general risks review the H&S aspects of the methods of construction required to implement the design – including the use of special equipment and/or skills. Have any errors or omissions in the (revised) Brief been identified?

4. TENDER DOCUMENTATION AND PROCUREMENT

Clarify the preferred procurement options - prepare tender documentation accordingly.

Are potential 'construction risks' identified in the tender documentation for information of the tenderers?

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

Depending on the 'grade of' Contractor(s) to be appointed – this may require (re)consideration of some tasks, use of Construction Equipment, etc. Consider: "5 M's rule:"

* Money
* Materials
* Machines
* Methods
* Manpower

When appointing 'political stakeholders' – has allowance been made (time, costs, (re)work?) for health screening before appointment of a person, appropriate on the job training, provision of personal protective equipment (PPE), signing of service level agreement, etc ?

Are some of the identified risks 'insurable'?

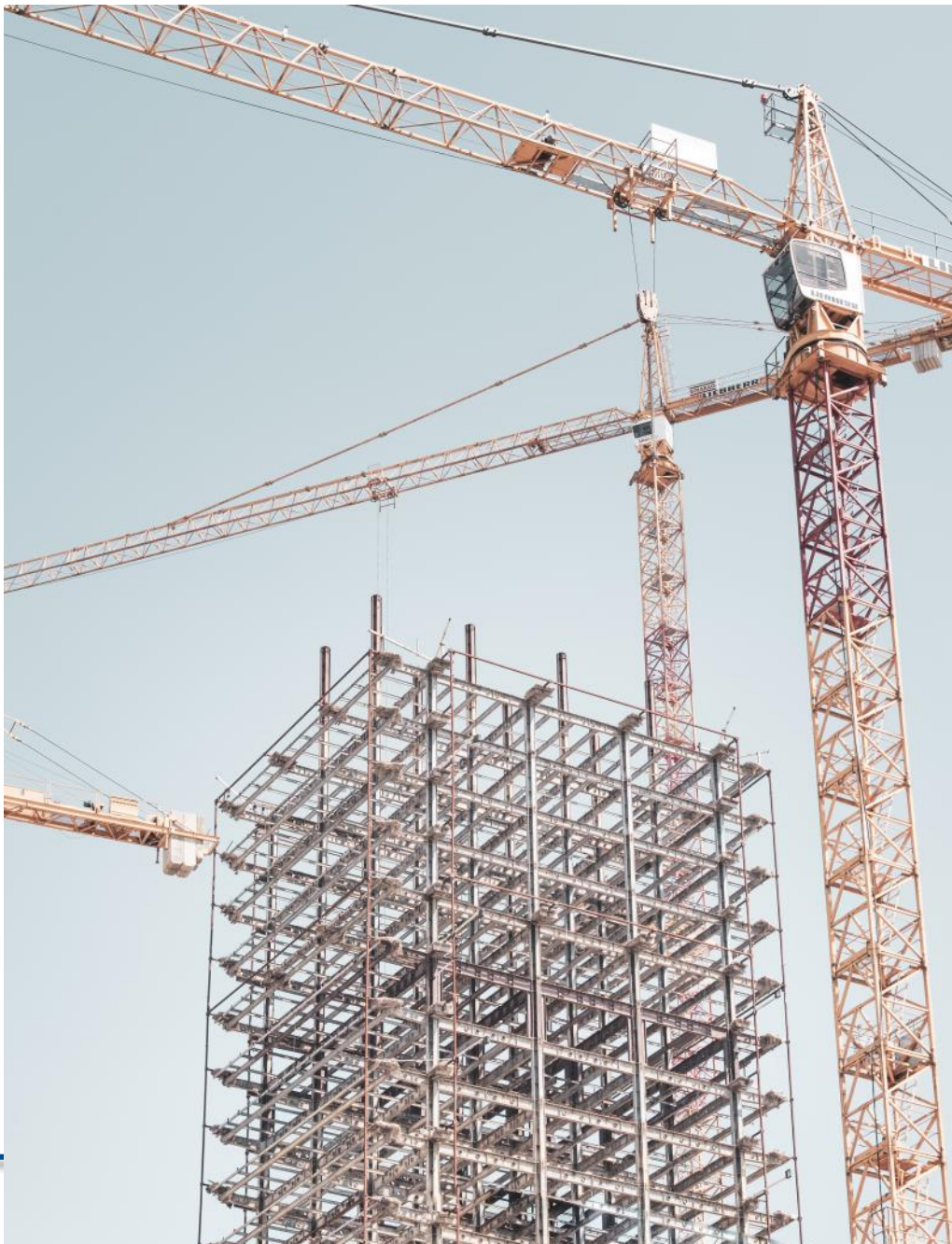Can performance risks be dealt with using 'performance' or 'payment' guarantee'?

Has the Employer's risk specification been included in the Construction Documentation?

Has the Employer obtained a Construction Permit timeously for construction to commence?

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised Brief, resulting in lessons learnt for future projects.

Include a summary of identified risks and mitigation measures implemented for possible use in future.

9. Project Procurement Management

PMBOK 6th Edition 2017 … "**includes the processes necessary to purchase or acquire products, services or results from outside the project team**".

- A Pr CPM applicant – must implement the agreed or the Employer's procurement policy and/or EPWP criteria and oversee the production and coordination of appropriate project documentation, the invitation to and evaluation of tenders, and award the contract on instruction from the Employer.

- A Pr CM applicant - must implement the Contractor's procurement policy and oversee the production and coordination of appropriate subcontract documentation, the invitation to and evaluation of tenders, and award the subcontract(s) on instruction from the Contractor.

- The Pr CPM and the Pr CM must implement the 'project procurement strategy' – by following the defined processes, using the appropriate documentation coordinated with the chosen Standard-form Contract.

- A Pr CPM and/or a PR CM applicant, with the **project** team members, must produce a 'procurement plan':

  1. Formal, advertised to the public, fixed tender submission date, stated tender validity period, formal evaluation process by "bid committee" – or informal – by invitation subject to particular conditions?
  2. Preparation of appropriate tender documentation by agents/Principal Contractor for use with applicable Standard-form Contract (SfC) - a service level agreement – risk of non-standard wording?
  3. The ability of each bidder to provide a service or product of the specified nature, quality and reliability;
  4. The experience and track record of the bidder, its technical knowledge, capacity, possession of appropriate licenses and permits to comply with the proposed delivery schedule;
  5. The bidder's record of business ethics and integrity and the availability of audited financial records and valid tax status;
  6. Compliance with BBBEE criteria, and Local, Provincial or National legislation.
  7. Record payment conditions if not accordance with SfC,
  8. Performance guarantees or product or warranties to be provided.

Note: In the UK the Cabinet Office /Minister during 2022 commissioned an independent review of procedures used in the construction industry for public works as the 'gold standard' to improve productivity by the early involvement of contractors and suppliers who can assist and speed up the design phase, production Construction Documentation and simpler building solutions through 'modern methods of construction' or 'early supply chain involvement'. *See HTTPS://www.gov.uk/government/news/launching-the-independent-review-of-construction-frameworks*

Application during the six work stages:

1. PROJECT INITIATION AND BRIEFING

Do any corporate or statutory prescripts apply? – if so, this may determine professional appointments, involvement of 'stakeholders', preparation of Construction Documentation, awarding of contracts (use of a particular SfC), etc. Timeously identify procurement criteria against which the success of the project will be assessed as lessons learnt.

2. CONCEPT, FEASIBILITY AND VIABILITY

The project parameters defined in the Brief may determine appropriate procurement policies considering location of the project, the business – social – natural environment and involvement of (political) stakeholders who may influence the potential feasibility (how practical) and the viability (capital cost compared to income).

Any errors or omissions in the Brief, if not corrected, may result in a viable project being rejected.

The procurement policy may determine a 'conventional design by employer' or 'design by contractor' option may determine the nature and type of documentation required and the Standard-form Contract to be used.

Can lessons learned from previous projects be incorporated?

Quotations from previous applications to illustrate the content of a report:

Project Manager: "Without a well-developed **supply chain** and clear best practices for purchasing and inventory management, staff could be overspending, double-buying, or purchasing outside the project's requirements - creating more expense for replacement costs and lost time."

"A significant challenge in construction procurement lies in **supplier management**. If the principal contractor fails to identify the best suppliers to maintain a steady supply of high-quality materials, then the project will suffer a lot of delays."

3. DESIGN DEVELOPMENT

Identify unique aspects / equipment / statutory compliances etc to be researched or procured for inclusion in the Brief / Design to meet the defined objectives?

Consider how the 'design' is to be constructed to comply with H&S practices / require special techniques or equipment. If novel construction methods or materials are chosen – has the Employer or the Contractor or the Consultant been made aware of the risk should they 'fail'?

Have any errors or omissions in the (revised) Brief been identified?

4. TENDER DOCUMENTATION AND PROCUREMENT

Identify or consider preferred procurement options - this may influence the tender documentation.

Must procurement policies recognise specialist suppliers or contractors outside the normal process?

Must procurement policies recognise involvement of the local community as 'contractors'?

5. CONSTRUCTION DOCUMENTATION AND MANAGEMENT

The procurement policy must guide the preparation of construction documentation for unique aspects / equipment / statutory compliances etc or require early (principal) Contractor involvement to meet the defined (design or execution) objectives?

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised Brief, resulting in lessons learnt for future projects – and the success, or otherwise, of the procurement policies.

10. Project Stakeholder Management

**PMBOK 6th Edition 2017 …
"includes the processes required for effective stakeholder engagement and participation. It consists of four processes being to identify stakeholders, plan stakeholder engagement, manage stakeholder engagement and monitor stakeholder engagement."**

- A Pr CPM / Pr CM applicant (on behalf of the Employer) must:

  1. Identify (political) stakeholder (s), and
  2. Identify an authorised stakeholder representative = Community Liaison Officer (CLO),
  3. Establish a Project Steering Committee (PSC) for regular liaison with the Employer representative,
  4. Keep records of meetings, attendance, events … all financial transactions,
  5. 'Provide contracts' to community members rendering specified services (skills).

Note: The CIDB published on 31 October 2017 a 'Standard for Contract Participation Goals for targeting enterprises and labour through Construction Works Contracts' (Government Gazette No 41237 dated 10 November 2017) dealing with procedures, appointment of a Community Liaison Officer, etc applicable to the Expanded Public Works Programme (EPWP).

Application during the six work stages:

1. PROJECT INITIATION AND BRIEFING

Timeously identify key Stakeholders who can influence the project success, or otherwise.

Note the term 'stakeholders' can include investors, staff, neighbours, suppliers, customers and in the South African context (political stakeholders) who may be beneficiaries and/or offer skilled/unskilled contract staff.

2. CONCEPT, FEASIBILITY AND VIABILITY

Define Stakeholder involvement in the project Brief during specific work-stages in accordance with the Employer's 'corporate social responsibility' policy appropriate to the project location – Such appointment may influence the potential feasibility (how practical) and the viability (capital cost compared to income) of the project.

The procurement policy may determine the 'conventional design by employer' or 'design by contractor' option which will determine the potential involvement of 'political stakeholders'.

Can lessons learned from previous projects be incorporated?

Quotations from previous applications to illustrate the content of a report:

Project Manager: "I was responsible for identifying stakeholders and compiling stakeholders register. I ensured that the register is updated and stakeholder's queries are documented."

Construction Manager: "Stakeholders were identified at site handover meetings. Everyone who attended the meeting introduced themselves, which organisation he/she represent, position and interest on the project.

All communications and queries are recorded on the issue log. There issue log indicates the category of a query, description of the issue, impact, person reporting the issue, responsible person, date received, date resolved, comments and resolution taken on the matter."

3. DESIGN DEVELOPMENT

Identify unique aspects suitable to involve 'political stakeholders'. This may involve adapting the design and/

or the construction solution to (more) labour intensive operations without the (limited) use of sophisticated Construction Equipment.

Has the Employer or the Contractor or the Consultant been made aware of the risk should they 'fail'? Have any errors or omissions in the (revised) Brief been identified?

4. TENDER DOCUMENTATION AND PROCUREMENT

Identify or consider preferred procurement options to include 'political stakeholders' from the local community as 'contractors' to provide 'labour' with limited use of sophisticated Construction Equipment. This may influence the 'content' of the tender documentation.

5. CONSTRUCTION DOCUMENTATION & MANAGEMENT

Construction Documentation may have to be 'adapted' to illustrate execution of the works involving labour intensive operations without / limited use of sophisticated Construction Equipment. The (principal) Contractor will have to manage this process and may charge an administration fee.

6. PROJECT CLOSE OUT

The final 'product' must be evaluated against the original / revised (and agreed) Brief, resulting in lessons

learnt for future projects – and the success, or otherwise, of the procurement policies.

CONCLUSION

Factors contributing to (successful) completion of a project include:

- Follow the procedures and processes as per PMBOK;
- Proactively manage staff: training, social aspects, fair payment, reward good work, encourage team work;
- Enforce 'scope creep' and 'design freeze' at work-stage gates with all stipulated reviews and 'sign offs';

- Proactively manage project risks;
- Maintain a comprehensive Project Control Document recording events, document issue, frequently asked questions etc and timely notices in compliance with the Standard-form Contract signed;
- Enforce quality assurance specifications   - instil a culture of pride in producing a quality product;
- Liaise with the Employer to ensure end user requirements and expectations are met;
- Ensure that a proper 'project close out process' is adhered to.

About the Author

Uwe Putlitz is a registered professional Architect and Construction Project Manager, a Fellow of the Royal Institute of Chartered Surveyors (RICS) and is a visiting lecturer at the School of Construction Economics and Management at the University of the Witwatersrand.

Having recently retired as the Chief Executive Officer of the Joint Building Contracts Committee (JBCC), he specialises in the avoidance of construction disputes by way of lectures, technical articles dealing with aspects of contract administration for various industry publications arising from the use of Standard-form Contracts including, the Federation Internationale des Ingenieurs-Conseils (FIDIC), the General Conditions of Contract (GCC), or the JBCC or the New Engineering Contract (NEC) to find an acceptable settlement without resorting to legal processes, where possible.

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