

Construction moves up a gear



A briefing note on the construction programme for the University of Mpumalanga



October 2014

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1. Update on Progress

This briefing note highlights progress to accelerate the construction of several new buildings at the University of Mpumalanga (UMP) in time for the 2016 academic year when student enrolments will increase significantly.

The briefing note summarises the procurement process followed to appoint the main contractors and highlights the outcomes achieved in terms of the capability, quality and some empowerment (B-BBEE) aspects of the appointed contractors. It further identifies opportunities to enhance the participation of provincial contractors, particularly black-owned companies.

The briefing note reaffirms the strategy to promote provincially-based subcontractors and suppliers as well as provincial job opportunities, skills development and empowerment. This objective is driven by contractual requirements that establish targets for local employment, local enterprise opportunities (subcontractors and suppliers), B-BBEE (as measured through the procurement process) and skills development opportunities (hours of practical experience towards a nationally accredited outcome). These targets will be measured and reported throughout the delivery process.

Finally, the briefing note sets out the approach to mobilize provincial participation in the construction programme ahead.

2. Background to the Contracting Strategy

The Department of Higher Education and Training (DHET) regards the investment in higher education infrastructure as an important instrument to drive national development objectives such as economic transformation and employment creation. It further recognises that the nature of construction projects resulting from such investments involves the management of a supply chain comprising a diverse range of goods and services with the potential for significant local development and employment opportunities.

These considerations have underpinned the contracting strategies adopted by the New Universities Project Management Team (PMT) for refurbishment and construction at the University of Mpumalanga (UMP).

2.1. REFURBISHMENT WORK USING PROVINCIALY BASED CONTRACTORS

Following the promulgation of the University of Mpumalanga in August 2013, the New Universities Project Management Team (PMT) commenced a programme to refurbish existing buildings for a modest enrolment of approximately 140 students in 2014. The ongoing refurbishment programme will increase the enrolment to approximately 370 students by 2015.

The ongoing renovation work includes the provision of 2 large auditoria, expansion and reconfiguration of a library, IT resource centre, computer laboratory and data centre. It further includes the upgrading of existing student residences and ablutions for 170 students. A

provincially-based contractor with a Construction Industry Development Board (CIDB) grading of 6GB was awarded the contract for the refurbishment programme.

Work at the Mpumalanga Regional Training Trust (MRTT) included the upgrading of two skills kitchens, upgrade of the teaching block of the existing MRTT Hotel Academy and offices. Work undertaken at the Siyabuswa Campus (by National Institute of Higher Education as the project implementation agent) included the upgrade of existing residences, dining rooms, academic offices, a 108 seat computer lab and the construction of a new office block due for completion in 2014.

2.2. STRATEGY TO DELIVER NEW BUILDINGS FOR 2016 & 2017 ACADEMIC YEARS

Construction of new buildings and infrastructure for the 2016 academic year is the first phase of a construction programme that will continue over a 10 to 12 year period, ultimately providing state-of-the-art facilities for 18 000 students at the University of Mpumalanga.

a) Scope of the first phase of construction

Enrolment for the 2016 and 2017 academic years requires the construction of large, new multi-storey buildings to accommodate over 700 students by 2016 and approximately 1442 students by 2017.

This phase of construction will establish core campuses at Mbombela and Siyabuswa, completing some 12 new multi-storey buildings at a total estimated construction cost of approximately R520m. The buildings include laboratories, lecture auditoria and teaching facilities, academic offices, libraries, residences and student facilities. In total, the construction of more than 32 000m² of new buildings will accommodate the planned 2017 student numbers.

b) Delivery and procurement strategy

Given the challenging scope of work and time frames described above, the planning and procurement for construction in this phase has endeavoured to address the following challenges and requirements:

- A number of new university buildings must be ready by the end of 2015 in order to accommodate planned enrolment for the 2016 academic year and this, in turn, requires a construction start by September, or early October of 2014;
- The appointed contractors should have the capacity and capability to deliver a high quality product in time and on budget;
- The contracting strategy should support the participation of provincial main contractors and should include a strategy to promote empowerment, provincial subcontractors and suppliers, as well as provincial job opportunities and skills development.

c) Consideration of provincial contracting capacity

The procurement of main contractors for the start of major new construction work was informed by these objectives, including the deliberate strategy to promote provincial and local capability.

From the outset, it was understood that the size and nature of the work together with the envisaged delivery time frames, would require the appointment of large and competent general building contractors at a CIDB grading level 8GB or 9GB. While the CIDB Register of Contractors lists 7 contractors in these categories in Mpumalanga, a conscious decision was taken to lower the requirements to a CIDB grading level 7 GB or higher, increasing the eligible provincial contractors to 25 in Mpumalanga according to the register.

d) Three phase tender process

Based on these considerations, a rigorous three-phase tender process was undertaken to appoint capable framework contractors with a Construction Industry Development Board (CIDB) contractor grading designation of 7GB or higher. The Tender Evaluation Committee included representatives from DHET, Wits, the University of Mpumalanga and the Mbombela municipality.

Calls for Expressions of Interest were advertised from 25 May 2014 on the New Universities Website and in newspapers, nationally and provincially as follows:

Mpumalanga: Sunday Times, Lowvelder, Nelspruit Post and Mpumalanga News.

3. Procurement Outcomes

Following the evaluation of the Expressions of Interest received, seven contractors were invited to submit a first round of tenders based on a Bill of Quantities. Following evaluation of this first phase, four contractors submitted a final tender price based on an Activity Schedule. Finally, two framework contracts were awarded to Trencon Construction and to Norse Projects. Trencon (CIDB GB9) is the largest 100% black-owned construction company in South Africa and also boasts a black woman ownership of 30%. Norse Projects (CIDB GB8) is Mpumalanga-based and has received a B-BBEE level 7 rating from an accredited empowerment rating company.

The contracts have been awarded to companies that have the proven capability to deliver the planned buildings on time, on budget and to the envisaged quality, and by and large reflect a commitment to empowerment and positive transformation. Notwithstanding these positive outcomes, there is a need to enhance the participation of provincially-based, Black-owned companies in the construction programme.

4. Enhancing Opportunities for provincial Main Contractors

In order to expand the participation of provincially-based construction companies (particularly black-owned companies) at the main contractor level, a review has been undertaken to identify additional construction opportunities. It is important that the activation of these opportunities proceeds in parallel with the contracts already awarded, in order to ensure that the 2016 and 2017 delivery targets are met.

4.1. ADDITIONAL OPPORTUNITIES AT THE UNIVERSITY OF MPUMALANGA (UMP)

A review of the most recent construction requirements for mid-2016 and for the 2017 academic year indicates that there are four projects, each with an estimated contract value in excess of R 13 million but less than R 40 million that can be put out to tender. Three of these projects relate to the construction of buildings on the campus and the other to civil engineering works in and around the campus. These projects provide an opportunity for enhancing local participation at a main contract level.

Construction on these projects is scheduled to commence during the second quarter of 2015, allowing sufficient time to conduct a tender process which not only ensures that successful tenderers have the capacity and capability to successfully complete the project but are also able to embrace the collaborative project ethos and to attain the targets for B-BBEE spend, direct local employment and local participation within the supply chains which they bring to the project.

The CIDB qualified procedure will be followed i.e. a call for expressions of interest is advertised and thereafter only those tenderers who have expressed interest, satisfy objective criteria and who are selected to submit tender offers, are invited to do so. Tenderers will be qualified through the expression of interest process to submit tender offers on the basis of a number of factors which relate to capacity, capabilities and compliance with legislative requirements as well as their potential to satisfy targets such as those relating to local participation.

A limited number of the highest scoring tenderers will be invited to submit tender offers. Those submitting tender offers will be scored in terms of the quality of their B-BBEE status, experience in undertaking work of a similar nature, ability to mobilise provincially based resources in the execution of the contract in order to satisfy challenging local participation and direct employment targets, etc.

Calls for expressions will be advertised on the CIDB website and in local newspapers. All contractors undertaking work for the Mpumalanga Province Rapid Implementation Unit will also be notified of this tender opportunity.

The early identification of tenderers through the qualification process, will enable interaction with potential tenderers to take place prior to the closing of tenders. Workshops can be arranged on requirements for local participation and direct employment and on the provisions of the collaborative form of contract which will be used. A further briefing by the professional team, will deal with the buildings and technical requirements. These workshops and briefings will enable tenderers to submit compliant and competitive tenders.

4.2. TARGETING PROVINCIAL CONTRACTORS USING THE CIDB REGISTER

The targeting of provincial contractors involves identifying the potential contractors and targeting their participation in the procurement process. An analysis of the potential participants has been undertaken based on information available from the Contractor Registration and grading system established by the Construction Industry Development Board (CIDB).

This contractor grading system is based on a contractor's annual turnover, largest contract completed and available capital. Contractors are categorised as falling into one of nine tender value ranges within a specific class of construction works. Contractors are graded every three years but may apply for an increase in their contractor grading designation during this period should they satisfy the criteria for a higher contractor grading designation in relation to a project. This contractor grading system enables a tenderer's potential tendering capability and capacity to be understood. The register also indicates whether or not a tenderer is a "*potentially emerging*" enterprise i.e. whether or not it is owned, managed and controlled by previously disadvantaged individuals. This establishes which of the registered contractors are black owned.

According to the CIDB register, there is a reasonable supply of contractors in Mpumalanga to execute general building contracts having a value up to R40m (12 in total, of which 11 are Black-owned). However, beyond a contract value of R40m the provincial supply is limited to 6, of which 3 are Black-owned. In the Civil Engineering category there is an adequate supply up to the R40m contract value (19 in total, of which 15 are black-owned).

5. Increasing the scale and scope of provincial participation

Specific development objectives have been integrated into the construction procurement strategy in addition to the requirements to ensure competent, cost-effective and timely completion of campus buildings and infrastructure.

The development objectives have been translated into specific key performance indicators (KPIs) with required targets as follows:

- local participation goal relating to the employment of local people, local subcontractors and local suppliers of between 30 and 95%;
- broad-based black economic empowerment spend of 60% calculated in accordance with the scorecard for preferential procurement;
- direct employment goal (percentage of the total number of equivalent days worked by people employed on the site who are local) of between 30 and 95% with sub-targets for youth and women; and
- skills development goal (skills development opportunities which result in nationally accredited outcomes) of 250 hours per million rand expenditure)

These specifications form part of the requirements set for the appointed contractors. Damages for low performance have been contractually stipulated in order to penalise contractors should they fail to achieve a specific KPI. It is also anticipated that the minimum

requirements set out above will be increased as contractors become familiar with the environment during the construction process.

6. Mobilising provincial participation

Project managers and contractors will work closely with the university, provincial and local government structures to mobilise participation in the construction programme. Under the stewardship of the University of Mpumalanga, structures have been established to coordinate local participation in the construction programme, with representation from the province, district and local government.

Furthermore, the project managers will appoint a communication specialist and a community liaison officer to support the mobilisation effort and the communication of results.

The amount of expenditure on provincially-based subcontractors and suppliers can be increased when a comprehensive data base of such subcontractors and suppliers is put in place. This data base is being established and will link the demand for goods and services generated by the construction projects to the supply within the province. This list of provincial suppliers need to provide verified information which enables the contractors to readily make informed commercial decisions regarding the capability of the enterprises listed.

Applicants will be able to download application forms from the web and submit their applications either by hand or by post to a central point where they can be validated and captured on the data base. Such information can then be made publically available so that local participation can be increased in all building projects throughout the province. The website will be available by the end of October 2014.

7. Monitoring targets and communicating progress

Targets and KPIs will be monitored on a monthly basis through reporting by the contractors to the project managers, who in turn report to the PMT. The PMT will consolidate reports and ensure that the relevant information is reported to the two universities, the DHET and the office of the Premier in the province.

Construction Programme for the University of Mpumalanga



Frequently Asked Questions (FAQs)



October 2014

1. What construction work has been undertaken to ensure the University of Mpumalanga (UMP) is ready for the 2015 academic year?

The New Universities Project Management Team (PMT) commenced a programme in August 2013 to refurbish existing buildings for a modest enrolment of approximately 140 students. The refurbishment programme is continuing during 2014 to increase the enrolment to approximately 370 students by 2015. The ongoing renovation work includes the provision of 2 large auditoria, expansion and reconfiguration of a library, IT resource centre, computer laboratory and data centre. It further includes the upgrading of existing student residences and ablutions for 170 students. A provincially-based contractor with a CIDB grading of 6GB was awarded the contract for the refurbishment programmes.

Work at the Mpumalanga Regional Training Trust (MRTT) included the upgrading of two skills kitchens, upgrade of the teaching block of the existing MRTT Hotel Academy and offices. Work undertaken at the Siyabuswa Campus (by National Institute of Higher Education as the project implementation agent) included the upgrade of existing residences, dining rooms, academic offices, a 108 seat computer lab and the construction of a new office block due for completion in 2014.

2. What major new construction work is required to ensure that the UMP is ready for the planned intake of students in 2016 and 2017?

Construction of new buildings and infrastructure for the 2016 academic year is the first phase of a construction programme that will continue over a 10 to 12 year period, ultimately providing state-of-the-art facilities for 18 000 students at the University of Mpumalanga. Enrolment for the 2016 and 2017 academic years requires the construction of large, new multi-storey buildings to accommodate over 700 students by 2016 and approximately 1442 students by 2017.

This phase of construction will establish core campuses at Mbombela and Siyabuswa, completing some 12 new multi-storey buildings at a total estimated construction cost of R520m. The buildings include laboratories, lecture auditoria and teaching facilities, academic offices, libraries, residences and student facilities. In total, the construction of more than 32 000² meters of new buildings will accommodate the planned 2017 student numbers.

3. When will construction start?

Construction of a new residence building has already started at the Siyabuswa Campus. Construction at the Mbombela Campus is expected to start in October 2014.

4. How were the main contractors procured for the construction programme? Who are the main contractors appointed to undertake the construction works?

a) How were the main contractors procured?

A rigorous three-stage competitive negotiation procurement process was adopted to ensure that qualifying contractors are sourced. In this procurement procedure the number of tenderers competing for the contract is reduced until the remaining tenderers are invited to submit final proposals.

The first stage of the procurement process involved the issue of a call for expressions of interests to respondents with a Construction Industry Development Board (CIDB) contractor grading designation of 7GB or higher. Advertisements were placed in national and provincial newspapers, including the Sunday Times, Lowvelder, Nelspruit Post and Mpumalanga News. Responses to this call were evaluated by a technical evaluation committee and respondents were subsequently invited to participate in the next stage of the process.

In the second stage, respondents were provided with a set of drawings, a scope of work and bill of quantities for a Work Package for one of the buildings and invited to tender a target price based on the bill of quantities for the first Package Order and a number of other parameters. The tenders were subjected to a quality evaluation and the final bidders were invited to the third stage – submission of a best and final offer based on an activity schedule compiled from construction drawings. The Tender Evaluation Committee comprised the University of Mpumalanga, Wits University, DHET, the Mbombela Local Municipality, and the Project Management Team.

b) Who are the main contractors appointed to undertake the construction works?

Two framework contracts were awarded to Trencon Construction and to Norse Projects. Trencon (CIDB GB9) is the largest 100% Black-owned construction company in South Africa and also has a Black woman ownership of 30%. Norse Projects (CIDB GB8) is Mpumalanga-based and has a B-BBEE level 7 rating.

5. Are there any construction companies based in the Mpumalanga Province involved as main contractors?

Yes. Norse Projects is an Mpumalanga-based contractor.

6. What measures have been introduced to encourage and promote participation of provincially-based main contractors in the construction programme?

In order to expand the participation of provincially-based construction companies (particularly black-owned companies) at the main contractor level, a review has been undertaken to identify additional construction opportunities. The most recent construction requirements for mid-2016 and for the 2017 academic year indicates that there are four projects with an estimated contract value in excess of R 13 million but less than R 40 million that can be put

out to tender. Three of these projects relate to the construction of buildings on the campus and the other to civil engineering works in and around the campus.

Construction on these projects is scheduled to commence during the second quarter of 2015, allowing sufficient time to conduct a tender process following the CIDB qualified procedure i.e. a call for expressions of interest is advertised and thereafter only those tenderers who have expressed interest, satisfy objective criteria and who are selected to submit tender offers, are invited to do so. Tenderers will be qualified through the expression of interest process to submit tender offers on the basis of a number of factors which relate to capacity, capabilities and compliance with legislative requirements as well as their potential to satisfy targets such as those relating to local participation. Calls for expressions will be advertised on the CIDB website and in local newspapers.

The targeting of provincial contractors involves identifying the potential contractors and targeting their participation in the procurement process. An analysis of the potential participants has been undertaken based on information available from the Contractor Registration and grading system established by the Construction Industry Development Board (CIDB). According to the CIDB register, there is a reasonable supply of contractors in Mpumalanga to execute general building contracts having a value up to R40m (12 in total, of which 11 are Black-owned). However, beyond a contract value of R40m the provincial supply is limited to 6, of which 3 are Black-owned. In the Civil Engineering category there is an adequate supply up to the R40m contract value (19 in total, of which 15 are black-owned).

7. How will the construction programme support local development?

Specific development objectives have been integrated into the construction procurement strategy in addition to the requirements to ensure competent, cost-effective and timely completion of campus buildings and infrastructure. The development objectives have been translated into specific key performance indicators (KPIs) with required targets as follows:

- local participation goal relating to the employment of local people, local subcontractors and local suppliers of between 30 and 95%;
- broad-based black economic empowerment spend of 60% calculated in accordance with the scorecard for preferential procurement;
- direct employment goal (percentage of the total number of equivalent days worked by people employed on the site who are local) of between 30 and 95% with sub-targets for youth and women; and
- skills development goal (skills development opportunities which result in nationally accredited outcomes) of 250 hours per million rand expenditure)

These specifications form part of the requirements set for the appointed contractors. Damages for low performance have been contractually stipulated in order to penalise contractors should they fail to achieve a specific KPI. It is also anticipated that the minimum requirements set out above will be increased as contractors become familiar with the environment during the construction process.

8. How can I register my interest in participating in the construction programme for the University of Mpumalanga?

Sub-contractors and suppliers can register their interest in participating in the construction programme on a database by completing an application form available from a UMP Construction Website specifically set up for this purpose. Application forms can be downloaded from this website by the end of October 2014. Links to the construction

programme website will be available from the University of Mpumalanga website (www.ump.ac.za) and the New Universities Project Management website (www.newuniversities.ac.za). Applicants must submit their applications either by hand or by post to a central point where they can be validated and captured on the database.

The database will be used to link the demand for goods and services generated by the construction projects to the supply within the province. Such a list needs to provide verified information which enables the contractors to readily make informed commercial decisions regarding the potential capability and capacity of such enterprises. In order to ensure that the data remains reasonably current, enterprises would be required to resubmit their particulars at least every two years or whenever they wish to update their particulars.

9. *Where can I get access to information about job opportunities in the construction programme?*

The project manager, Ariya Projects, will appoint a community liaison officer to work closely with the contractors, provincial and local structures and communities to communicate job opportunities and recruit and engage with workers. Further information will be made available via the on the UMP Website by the end of October 2014.

The Construction Story

**An architectural description of the
construction projects at the University of
Mpumalanga**

October 2014



Building 1: University of Mpumalanga

The Residential complex is comprised of 6 distinct buildings integrated into the existing residential precinct. Five 3 storey Residential apartment blocks accommodating a total of 232 beds are positioned along a pedestrian street. The rooms are grouped together around courtyards to form social clusters with shared ablutions and small common kitchenette spaces.

Residence seminar rooms, Student centre, Games rooms and Laundry are located on the upper and lower ground floors of a 2 Storey building accessed from a communal square located along the pedestrian street.

Key Features

- The residences are structured as a series of 'apartment blocks' with private internal courtyards, arranged along an internal street. These carved out blocks form small perimeter buildings which create intimate spaces within and between each other. Each apartment accommodates 9 students with 4 small bathrooms and a common room. All rooms are accessed from the street either at ground level or via communal external covered staircases.
- Communal spaces are programmed on the street level to encourage an active social interaction at ground floor. The street widens to form a gathering space from which there is access to 4 seminar rooms, a parent meeting room, the student center, games room and laundry.
- 4 disabled rooms with two bathrooms are provided on the ground floor of one apartment block. Access to all communal facilities is from ground floor and is accessible by ramp where necessary. Attention is given to provision and placement of door handles and light switches..
- The courtyard type creates public and private common outdoor space, is climatically appropriate and allows all rooms to be cross ventilated. All windows are shaded from the summer sun keeping spaces cool in summer. All gray water from the building is treated and recycled for reuse. Electrical and water consumption is metered in detail to assist with the management and control of resource consumption. Water heating for the ablutions is done by energy efficient heat pumps



Building 2 and 3: University of Mpumalanga

The Library and Executive Management Offices are situated on the south east portion of the campus creating a strong edge to the square, giving iconic presence to the Library, the centre of knowledge for the university. The west edge of the Library forms a shaded colonnade boundary to the square. The Executive Management office building is situated to the south of the Library separated by an east west access road.

The office building is directly related to the memory garden, with access to the building through the garden. An interactive connecting atrium space, shaded and screened connects two office wings. Large glass facades to the south allow for panoramic views over Mbombela.

Key Features

- The Library precinct has accommodation positioned around a secure courtyard, from where there is access to facilities that include a large double volume library space, an exhibition area at courtyard level, IT teaching facilities including cinema style teaching spaces and general student study areas. Staff offices are situated on the top floor of the library. Seminar rooms are located in the main library study area.
- The walled, heavily massed building is both a response to climate and use – the shaped screen brick wall a protective climatic skin externally, providing protection from the harsh west sun, while the internal wall is recessed to accommodate bookshelves. At roof level the wall is raised to allow diffused east light into the building. The outer perforated brick screen provides screening from the west sun and allows for the play of light on the surface.
- The Executive Management offices are structured around an interactive circulation atrium with the 6 VC offices and their PA's to the south and the additional supporting administration offices, including HR, Registrar, Academic planning and supporting seminar rooms and boardrooms to the north. The council chamber is centrally located above the entrance, with associated breakaway and exhibition spaces on the ground floor.
- Universal access is applied throughout both buildings through the use of lifts and ramps and disabled ablution facilities are provided in each building. Attention is given to placement of door handles and light switches.



- Electrical and water consumption is metered in detail to assist with the management and control of resource consumption. Water heating for the ablutions is done by energy efficient heat pumps

Building 4 - Main Auditorium University of Mpumalanga

Introduction

The Lowveld campus urban design encourages the formation of many smaller secondary squares and courtyards. The changing densification and function of buildings will have an impact on the use of an existing amphitheatre as the primary outdoor space at the confluence of the rising south – north axis as one proceeds up the hill to the library and the east – west cross axis running at the lower level of the amphitheatre.

Building Description

The Main Auditorium building contains teaching spaces, academic offices and meeting rooms and is located adjacent the existing university hall. The ground floor comprises of the most accessed spaces being a 250 seat raked lecture theatre and seminar rooms. A conceptual open circulation system has been implemented, cutting through the building in a north south direction. The main lecture theatre will open onto a newly pedestrianized and landscaped stepped “street” to the west.

Two stairways confined to the north façade of the building enforce the proposed access from the east-west outdoor circulation spine and are designed as open structures to facilitate communal interaction between lectures.

First and second floor comprise of a combination of smaller interactive teaching spaces and offices. The configuration allows for outward facing rooms able to be naturally ventilated by simple opening window sections in addition to air conditioning. The design proposes using open bonded honeycomb brickwork patterning in the façade to shade the aspects that will be exposed to strong sun. An internal courtyard provides for circulation, balanced lighting and cross ventilation.



southwest view



southeast view

Building 5 – ICT Laboratories University of Mpumalanga

Introduction

The ICT building serves to re-enforce the strength and significance of the current amphitheatre, while the design for Main Auditorium building endeavours to form new outdoor areas surrounding the current academic buildings. These outdoor areas form break away spaces from the adjacent lecture theatres and have limited or few external views to the city of Nelspruit below. As such the Lowveld campus will be characterised by a sub-set of squares and courtyards of varying character rather than a single dominant outdoor space.

Building Description

This building contains the main ICT teaching laboratories, campus server and campus security monitoring office.

The east facing façade is of particular importance as it forms the new “face” to the upper level of the existing amphitheatre. Attention to scale, detail, materials and interaction of the ground floor IT laboratories with the outside space linking it with the existing collection of buildings forming the centre of the lower campus.

Teaching spaces have been placed on the ground floor to enable ready access to all students and staff, with server spaces placed at first floor level, accessed from a service road to the west of the building. Deep roof overhangs, decorative shading screens and opening windows promoting natural cross ventilation, allow for comfortable internal conditions throughout the year, minimising reliance on mechanical ventilation systems.



southeast view