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ANNEXURE 1:

Contract Agreement

CONSULTANCY AGREEMENT

Entered into between

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

A Public Higher Education Institution constituted in terms of the South African Higher Education Act 101 of 1997 and the Statute of the Cape Peninsula University of Technology, promulgated under Government Notice No 33202 of 17 May 2010. Herein represented by DR NKONGWANE STOFFEL NHLAPO in his capacity as Vice Chancellor and being duly authorized hereto.

(Hereinafter referred to as CPUT)

and

……

A company duly incorporated and registered in accordance with the laws of the Republic of South Africa, with registration number: ……

Herein represented by …… in his capacity as managing director and being duly authorised hereto by virtue of the Company's resolution dated ……

(Hereinafter referred to as the Service Provider)

PREAMBLE

Whereas Cape Peninsula University of Technology (CPUT) has entered into an agreement with the Service Provider to provide the consulting services described in this Agreement.

And whereas, the Service Provider has the requisite knowledge, experience and capacity to provide the services as contemplated in this agreement.

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. DEFINITIONS

1.1 Agreement means the Agreement contained in this document and all annexures attached to this Agreement.

1.2 Business Day means a day which is not a Saturday, Sunday or South African Public Holiday or University Holiday.

1.3 Commencement date shall be effective on the ……., notwithstanding the signature date.

1.4 Confidential Information includes any information whether in writing, electronic form or verbal and includes but is not limited to information relating to CPUT's trade secrets, Intellectual Property, information relating to CPUT's financial methods, policies and philosophies, marketing methods, research methods, incentive schemes, formulae, processes, systems, business methods, inventions, specialized knowledge of training material and training programs, staff welfare, internal control systems, policies and strategies, salary and wage policies, security methods, contractual arrangements and financing techniques, personnel, strategic plans, any software and/or database information or other electronically stored information, and other matters which relate to the business of CPUT in respect of which information is not readily available in the ordinary course of business to a member of the general public. Without limiting the generality of the foregoing "Confidential Information" includes any information that falls within the definition of Personal Information as defined in POPIA;

Company duly incorporated and registered in accordance with the laws of South Africa.

1.5 Contract Material means "All material brought or required to be brought into existence as part of, or for the purpose of performing the Services, including but not limited to documents, equipment, information and data stored by any means"

1.6 Contract Price means the price to be paid for the performance of the Services in accordance with the Pricing Data.

1.7 Day means a calendar day.

1.8 Defect means a part of the services, as performed, which does not comply with the requirements of the Agreement.

1.9 Deliverable means anything in writing or otherwise (whether in hard copy or electronic format) created or prepared by the Service Provider for the CPUT as part of Services.

1.10 Employer means Cape Peninsula University of Technology (CPUT), a Public Higher Education Institution constituted in terms of the South African Higher Education Act 101 of 1997 and the Statute of the Cape Peninsula University of Technology, promulgated under Government Notice No 33202 of 17 May 2010.

1.11 Letter of Award means the letter of appointment issued by the CPUT to the Service Provider in terms whereof inter alia the CPUT appoints the Service Provider to render the Services to CPUT, on the terms and conditions therein contained.

1.12 Others means persons or organizations who are not the Principal, the Service Provider or any employee, Subcontractor, or supplier of the Service Provider.

1.13 Parties means the Cape Peninsula University of Technology and …….

1.14 Penalty means the stipulated amount per calendar day payable by the Service Provider to the employer where the date or the revised date for practical completion, whichever is the later, has not been met.

1.15 Personnel means persons hired by the Service Provider as employees and assigned to the performance of the Services or any part thereof.

1.16 Personnel Schedule means a schedule naming all Personnel and Key persons.

1.17 Principal means “Cape Peninsula University of Technology”

1.18 Principal Service Provider means the Service Provider appointed to be in charge of other lead Service Providers

1.19 Project shall mean as per defined in the bid document.

1.20 Services shall mean the work to be performed by the Service Provider pursuant to the Agreement as described in the Scope of Services.

1.21 Subcontractor shall mean a person or company body corporate who enterers into a subcontract with the Service Provider to perform part of the Services.

1.22 Value-Added Tax means value-added tax payable in terms of the VAT Act; and “VAT Act" means the Value Added Tax Act No. 89 of 1991, as amended;

2. INTERPRETATION

2.1 Unless inconsistent with the context, an expression which denotes;

a) Any gender includes other gender

b) A natural person includes a juristic person and vice versa;

c) The singular includes the plural and vice versa.

2.2 The clause headings shall not limit, alter or affect the meaning of the Agreement

2.3 If there is any conflict between the provisions of this Agreement and the tender submission documents annexed hereto, the provisions of the tender documents shall prevail

3. SCOPE OF SERVICES

The Service Provider shall perform scope of services as detailed in the scope of service document attached in the bid document.

4. SERVICE PROVIDER OBLIGATIONS

4.1 The Service Provider shall perform the Services to that standard of care and skill to be expected of a Service Provider who regularly acts in the capacity in which the Service Provider is appointed and who possesses the knowledge, skill and experience of a Service Provider qualified to act in that capacity.

4.2 The Service Provider shall not make any material alteration, or addition to, or omission from approved design, budget or programme without the written consent of CPUT and /or the Principal Service Provider except when required to do so by any applicable law or when arising from an emergency. In such circumstances, the Service Provider shall notify CPUT in writing, Principal Service Provider and other Service Providers involved as soon as practicable of the action taken.

4.3 If the Service Provider considers that information, documents and other particulars made available to it by CPUT are inadequate or contain errors or ambiguities, the Service Provider shall give written notice within 7 (seven) working days after the receipt of such information to CPUT detailing the errors or ambiguities.

4.4 The Service Provider shall submit to The Project Manager a program or plan for the performance and completion of the Services within 7 (seven) days after the signing of this Agreement.

4.5 In the event that CPUT appoints other professionals/ Service Providers in the same project the Service Provider must liaise, co-operate and confer with the appointed professionals/service providers.

5. CPUT OBLIGATIONS

5.1 CPUT shall pay the Service Provider the Consideration due to it on the terms and conditions set out in this Agreement.

5.2 CPUT shall provide the Service Provider with reasonable access to the CPUT campuses, sites and or premises for the duration of this Agreement.

5.3 CPUT shall assist the Service Provider in obtaining all the information in CPUT's possession which is reasonably required to perform the Services as contemplated in this Agreement.

6. SERVICE PROVIDER FEES

6.1 CPUT shall pay the Service Provider fees of ……..... in respect of the service rendered.

6.2 The Service Provider fees shall include all items as highlighted in Pricing Data, under Remuneration for Professional Services, which include, but not limited to disbursements and VAT.

6.3 The CPUT and the Service Provider acknowledge and agree that the Service Provider fees are based on the following non exhaustive parameters;

6.3.1 Scope of services

6.3.2 Project program

6.3.3 The cost of the works

6.3.4 The cost of the project

6.3.5 Appointments of other Service Providers

6.3.6 Appointments of other contractors.

7. PAYMENT TERMS

7.1 CPUT undertakes to pay valid signed invoices in full within 30 (thirty) calendar days from statement date provided that these invoices contain all the relevant information as prescribed and determined by CPUT and are approved by the relevant CPUT representative and/or authority.

7.2 No payment will be made by CPUT where the Service Provider has not submitted a valid signed tax invoice, delivery note (if applicable) and a statement of account to the CPUT's relevant authority at CPUT's finance department.

7.3 Any invoices reflecting increased prices not agreed to by CPUT, shall not be paid by CPUT and it is expressly agreed that CPUT shall only make payment in respect of invoices reflecting agreed prices between the Parties.

7.4 Should any dispute arise relating to the amount to which the Service Provider is entitled, such dispute shall be determined with the dispute resolution Clause provided for in clause 13 of this Agreement.

7.5 Payments to the Service Provider will be made electronically according to the banking details furnished by the Service Provider. Any change in such banking details must be communicated in writing to the project manager timeously.

8. PAYMENT SCHEDULE

CPUT shall pay the Service Provider in accordance with the completed milestones, deliverables or stages as follows:

8.1 Work stage 1-inception

8.2 Work stage 2-Preliminary Design

8.3 Work stage 3-Detailed Design

8.4 Work Stage 4-Documentation

8.5 Work Stage 5-Contract Administration and Inspection

8.6 Work Stage 6-Close Out

9. REPORTING

Notwithstanding any other requirements as listed elsewhere, the Service Provider shall submit weekly/ monthly report to The Project Manager indicating progress of the Services.

10. PERFORMANCE MANAGEMENT

10.1 The Service Provider shall apply professional skills and due diligence in the execution of the duties stipulated in this Agreement which shall include inter alia the following;

10.1.1 Although the Service Provider documents may be scrutinized by CPUT, this shall in no way relieve the Service Provider of his professional responsibility for the proper and prompt execution of his duties.

10.1.2 CPUT shall also be entitled to have any documentation or calculations verified by other professionals

10.1.3 In the event of mal-performance, default or negligence, CPUT shall have the right to claim compensation or damages or specific performance and set off such against any amount payable.

10.2 During assessment of the existing facilities, which have a direct bearing on the Project, the Service Provider shall determine deficiencies with such facilities in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the SANS 10400, etc. and recommend measures to rectify those during the project execution phase.

10.3 The Project Manager shall be notified in writing by the Service Provider and his personnel of any transgression of inter alia the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and environmental legislation during the Service Provider's operation pertaining to the Agreement regardless of who may be involved.

10.4 Local content; it is the request of CPUT to give preference to materials and equipment of South African manufacture. The Service Provider shall ensure that,

wherever feasible, designs are based on locally manufactured equipment and materials which can meet requirements at competitive prices and provides CPUT with the report indicating effort made to that effect.

10.5 Final disposal of documents; upon approval and finalization of the final account of projects requiring a security clearance, it is a requirement that the Service Provider forward to the CPUT all documents relating to this service. The same may also be requested on projects not requiring a security clearance.

10.6 All submissions of reports, deliverables and invoices shall only be signed off as complete once they have been satisfactorily reviewed by a Project Manager which shall not be unduly delayed.

10.7 If CPUT is dissatisfied with any aspect of the service provided, it will file a complaint with the managing director of the Service Provider. The Service Provider's Managing Director undertakes to investigate any complaint regarding the services and within 3 (three) days and file a report with the Project Manager on steps taken to resolve the issue. If CPUT remains dissatisfied, it may terminate the agreement upon written notice. CPUT would only be liable for the costs in respect of the services rendered to date.

11. PENALTY

11.1 If due to Service Provider's negligence, or for reasons within his control, the Service Provider does not perform the Services within the Period of Performance and/or expected completion of each milestones, CPUT shall without prejudice to its other remedies under the Agreement or in law, be entitled to levy a penalty to the value of R5,000.00 for every Day or part thereof, which shall elapse between the end of the period specified for performance, completed milestone or an extended Period of Performance, and the actual date of completion, at the rate and up to the maximum amount agreed by the parties.

11.2 If CPUT has become entitled to the maximum penalty amount referred to in 11.1, CPUT may after giving notice to the Service Provider:

a) to terminate the Agreement

b) to complete the Services at the Service Provider's cost.

12. NATURE OF RELATIONSHIP

12.1 It is specifically recorded that the Service Provider will perform an independent Service. It is accordingly recorded that the Service Provider and its Employees are not Employees of CPUT for the purposes of the Labour Relations Act, No 66 of 1995(LRA), the Basic Conditions of Employment Act, No 75 of 1997(BCEA), the

Unemployment Insurance Act, No 63 of 2001(UIA), the Employment Equity Act, No 55 of 1998(EEA), the Compensation for Occupational Injuries and Diseases Act No.130 of 1993 ("COID Act") and/or any other relevant legislation that may normally be applicable to an employer/employee relationship.

12.2 It is furthermore specifically recorded that the Service Provider and its Employees shall not be entitled to be a member of CPUT's provident, retirement or medical aid schemes as may be in existence from time to time. They shall also not be entitled to any other allowances or benefits, including leave pay or sick leave entitlements that would normally be provided to CPUT's Employees and that might be expected in an employer/employee relationship.

12.3 CPUT will also not carry or be responsible for any workman's compensation insurance or any health or accident insurance to cover the Service Provider and/or its Employees.

12.4 Notwithstanding the contents of this Agreement, should South African Revenue Services(SARS) claim any additional tax or amounts from CPUT, CPUT shall be entitled to recover same from the Service Provider, alternatively, set-off such amounts against any monies due and owing to the Service Provider by CPUT from time to time.

12.5 It is specifically recorded that the Service Provider shall be solely responsible for the payment of income tax on behalf of its Employees.

12.6 Any dispute of whatsoever nature between the Service Provider and its Employees will not be CPUT's responsibility or affect CPUT in any way.

13. TERMINATION OF AGREEMENT

13.1 The termination of the agreement shall be discharged in accordance to the completion of the stated milestones.

13.2 CPUT has a right to terminate this agreement if the Service Provider does not meet deliverables in the agreed timelines and/or delivers a milestone that is not to the satisfaction of a Project Manager.

13.3 Termination referred to above in clause 13.1 shall be effected in terms of Clause 14 below.

13.4 Termination by CPUT other than for Default by the Service Provider;

13.4.1 CPUT may terminate the whole or any part of the performance of the Services at any time, by written notice addressed to the Service Provider.

13.4.2 The Service Provider must, after receipt of a notice under Clause 13.3.1

13.4.2.1 Cease work on the terminated Services by the date specified in the Notice; and

13.4.2.2 Comply with any reasonable directive given in the Notice by CPUT in relation to performance of the Agreement.

13.4.2.3 As soon as practicable within 7 (seven) days after ceasing work under Clause 13.3.2,

13.4.2.4 the Service Provider must submit to CPUT a statement of the amount of the Fee (and any approved reimbursable expenses) claimed by the Service Provider to be payable for Services performed.

13.5 Termination by CPUT for Default by the Service Provider;

13.5.1 If the Service Provider: becomes bankrupt, or insolvent, or

13.5.2 enters into a scheme or arrangement with its creditors;

13.5.3 fails to carry out the Services with due diligence and competence;

13.5.4 Without reasonable cause suspends the carrying out of the Services; or

13.5.5 commits a substantial breach of this Agreement,

CPUT may:

13.5.5.1 In the case of the default specified in Clause 13.4.1, forthwith terminate this

13.5.5.2 Agreement by written notice addressed to the Service Provider; and

13.5.5.3 In the case of any other specified default, terminate this Agreement by written Notice addressed to the Service Provider if the Service Provider fails to remedy the default within (fourteen)days from the date of service of a notice by CPUT on the Service Provider specifying the relevant default.

13.6 Termination by the Service Provider;

13.6.1 If CPUT fails to pay the Service Provider any amount in accordance with this Agreement which is not in dispute, or commits a fundamental breach of the Agreement, the Service Provider may give written notice requiring CPUT to remedy the default within 14 (fourteen) Business Days after receiving the notice.

13.6.2 If CPUT fails to remedy the default or to propose steps reasonably acceptable to the Service Provider to do so within the time specified in Clause 13.5.1, the Service Provider may issue a Notice terminating the Agreement.

13.7 Service Provider's Continuing Liability

Termination by CPUT or Service Provider shall not release the Service Provider from liability in respect of any breach, or non-performance of any obligation pursuant to this Agreement.

13.8 Effect of Termination

Termination of this Agreement by either party is without prejudice to any accrued rights or remedies of each party.

13.9 Adjustment of the Fee on Termination

13.9.1 If any of the Services are terminated pursuant to Clause 13.3, CPUT shall pay the Service Provider a reasonable amount for the Services performed by the Service Provider up to the date of termination, as adjusted by any additions or deductions in accordance with this Agreement.

13.9.2 If this Agreement is terminated pursuant to Clause 13.4, CPUT shall pay the Service Provider a reasonable amount for the Services performed by the Service Provider up to the date of termination, adjusted to take into account loss or damage suffered, or reasonably likely to be suffered, by CPUT as a consequence of breach by the Service Provider. CPUT may recover any short-fall from the Service Provider as a debt due and payable.

13.9.3 If this Agreement is terminated pursuant to Clause 13.5, CPUT shall pay the Service Provider:

13.9.3.1 A reasonable amount for the Services performed by the Service Provider up to the date of termination, as adjusted by any additions or deductions in accordance with this Agreement.

13.10 CPUT shall not be liable for any consequential loss resulting from the termination of this Agreement.

14. DISPUTE RESOLUTION

14.1 Prior to the initiation of formal arbitration procedures, the Parties shall, within 5 (five) Business days after the raise of any dispute, first attempt to resolve the dispute informally, by way of negotiation. Each party shall appoint a single designated representative, who shall have the authority of the party they represent to settle the dispute;

14.2 Negotiation will commence by one of the Parties requesting the other in writing to meet and to attend to resolve the dispute;

14.3 If the dispute has not been resolved by negotiations within ten (10) business days of the commencement thereof, then the parties shall submit the dispute for arbitration;

14.4 Without detracting from either party's right to institute action or motion proceedings in a Court of competent jurisdiction in respect of any dispute that may arise out of or in connection with this Agreement, the parties may, by mutual consent, follow the arbitration procedure as set out in this clause. Should any dispute arise between the parties in the widest sense in connection with;

14.4.1 The formation or existence of;

14.4.2 The carrying into effect of;

14.4.3 The interpretation or application of the provisions of;

14.4.4 The parties' respective rights and obligations in terms of or arising out of;

14.4.5 The validity, enforceability, rectification, termination or cancellation, whether in whole or in part of;

14.4.6 any documents furnished by the parties pursuant to the provisions of this agreement or which relates in any way to any matter affecting the interests of the parties in terms of this agreement, that dispute shall, unless resolved by the parties, be referred to and be determined by arbitration in terms of this clause, provided that a party to the dispute has demanded the arbitration by written notice to the other party.

14.5 The arbitration shall be held –

14.5.1 at Cape Town;

14.5.2 With only the representatives and legal representatives of the parties to the dispute present thereat;

14.5.3 otherwise in terms of the Arbitration Act, no 42 of 1965, it being the intention that the arbitration shall be held and completed within 21 (twenty-one) days after it was demanded.

14.6 The arbitrator shall be, if the matter in dispute is principally –

14.6.1 A legal matter, a practicing advocate or attorney of Cape Town of at least 15 (fifteen) years' standing;

14.6.2 An accounting matter, a practicing chartered accountant of Cape Town of at least 15 (fifteen) years' standing;

14.6.3 Any other matter, any independent person, agreed upon between the parties to the dispute.

14.7 Should the parties to the dispute fail to agree whether the dispute is principally a legal, accounting or other matter within 7 (seven) days after the arbitration was demanded, the matter shall be deemed to be a legal matter.

14.8 Should the parties to the dispute fail to agree on an arbitrator within 7 (seven) days after the expiry of the period referred to in 9.4, the arbitrator shall be appointed at the request of any party to the dispute by the President for the time being of the Cape Law Society.

14.9 The decision of the arbitrator shall be final and binding on the parties to the dispute and may be made an order of any competent court at the instance of any of the parties to the dispute.

14.10 The parties hereby consent to the jurisdiction of the High Court of South Africa (Cape of Good Hope Provincial Division) in respect of any proceedings arising out of this agreement not subject to arbitration in terms of this clause.

14.11 The provisions of this clause –

14.11.1 Constitute an irrevocable consent by the parties to any proceedings in terms hereof and no party shall be entitled to withdraw therefrom or claim at any such proceedings that it is not bound by such provisions;

14.11.2 are severable from the rest of this agreement and shall remain in effect despite the termination of or invalidity for any reason of this agreement.

14.11.3 This clause will remain in force notwithstanding the termination of this Agreement which it forms part;

15. BREACH

15.1 In the event of any of the parties ("defaulting party") committing a breach of any of the terms of this agreement and failing to remedy such breach within a period of 14 (fourteen) days after receipt of a written notice from another party ("aggrieved party") calling upon the defaulting party so to remedy, then the aggrieved party shall be entitled, at its sole discretion and without prejudice to any of its other rights in law, either to claim specific performance of the terms of this agreement or to cancel this agreement forthwith and without further notice, claim and recover damages from the defaulting party.

15.2 Without limiting the generality of 15.1 above, the CPUT shall be entitled to terminate this agreement summarily if, in the CPUT's opinion, the Service Provider breaches any of the provisions of this agreement. Such termination shall be effected by the CPUT serving a written notice on the Service Provider.

16. NO SUBCONTRACTING

The Service Provider may not subcontract the provision of Services contemplated in this Agreement without the prior written consent and approval of CPUT which shall not be unreasonably withheld. Despite any consent and approval granted by CPUT in terms of this clause, the Service Provider remains solely liable for the performance of its obligations under this Agreement.

17. ASSIGNMENT

No party may assign, transfer, sub-contract or otherwise part with this agreement or any part thereof or any right or obligation under it, without obtaining the other party's prior written consent thereto.

18. WARRANTIES AND UNDERTAKINGS

18.1 The Service Provider hereby warrants and undertakes to and in favour of CPUT on (unless otherwise stipulated) the following basis-

18.1.1 the warranties shall be deemed to be representations and undertakings by the Service Provider;

18.1.2 each warranty shall be deemed to be a representation of fact inducing the CPUT to enter into this agreement;

18.1.3 each warranty shall be presumed to be material;

18.1.4 insofar as any warranty is promissory or relates to a future event, it shall be deemed to have been given as at the due date for fulfilment of the promise or the happening of the event, as the case may be;

18.1.5 each warranty shall be a separate warranty and in no way limited or restricted by reference to or inference from the terms of any other warranty, and

18.1.6 Each warranty is given as at the signature date and as at the effective date.

18.2 The Service Provider hereby warrants and undertakes, without limiting the generality of 18.1 above, to and in favour of the CPUT that:

18.2.1 He/ she possesses the appropriate level of experience and expertise in relation to the Services of which he/ she has been appointed and that he/she has the necessary capacity, resources, experience to provide the Services in respect of which he/ she has been appointed.

18.2.2 It is expected that the Service Provider shall, at all times, provide the Services diligently, in a professional manner and in compliance with all Prevailing Legislation and that the Service Provider shall amongst others:

18.2.3 Comply with the professional and ethical rules applicable to the Service Provider's profession;

18.2.4 Ensure that the interests of CPUT are protected at all times; and

18.2.5 Ensure that the Services are aligned to best practice.

18.2.6 No litigation, arbitration or administrative proceedings are pending or threatened against the Service Provider which would have an adverse effect upon his/ her financial condition or business, or her ability to perform his/ her obligations under this Agreement

18.2.7 The execution of this Agreement by the Service Provider and the performance by him/ her or his/ her obligations hereunder have been duly authorized.

18.3 All the applicable legislation, which do not specifically allow discretion in respect of compliance by the State, shall be followed exactly as intended by such legislation regardless of any instructions, verbal or in writing, to the contrary. (Refer inter alia to Section 41 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)).

18.4 Should any applicable legislation allow discretion in respect of compliance by the State, it shall be followed exactly as intended by the relevant legislation as if no discretion is allowed until such time as specific instructions in writing are issued to the appointed professional team by the departmental project manager.

18.5 The Service Provider undertakes to ensure that his actions and outcome thereof including, but not limited to, the facilities to be affected by the Service shall be in accordance with all relevant legislation and upon delivery, will function as required by said relevant legislation.

18.6 The Service Provider undertakes that its actions and the outcome thereof will in no way be detrimental to the health and safety of the occupants or persons present therein or in the vicinity thereof. Similarly, it must not be detrimental to any aspects of the environment in its structure or operation if operated as specified in operation manual(s).

18.7 This adherence to legal prescripts shall be a continuous process throughout the appointment, which shall manifest itself during the following phases:

18.7.1 Development of plans and documentation;

18.7.2 Ensuring compliance of the end product;

18.7.3 Compiling and issuing of Instruction/Operational Manuals indicating inter alia what the legal and safety requirements entail for the user(s)/operator(s) of the facilities;

18.7.4 Providing instruction to the intended users/operators.

18.8 The Service Provider accepts full and complete responsibility (both contractually and/or in delict) regarding compliance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) for his acts and omissions as well as those of his employees and indemnifies CPUT against any legal action in this regard.

18.9 The Service Provider undertakes to ensure that the requirements of the Occupational Health and Safety Act, 1993 will similarly apply to the agreement with any sub-Service Provider inclusive of indemnifying CPUT against any legal action regarding the actions and/or omissions by them.

18.10 The Service Provider undertakes and warrants that it has registered with the SARS as an independent tax payer and accordingly indemnifies and holds CPUT harmless in respect of any claim for tax of any nature that may be successfully levied against CPUT.

18.11 Notwithstanding the contents of this Agreement, should SARS claim any additional tax or amounts from CPUT, the CPUT shall be entitled to recover same from the Service Provider, alternatively, set-off such amounts against any monies due and owing to the Service Provider by the CPUT from time to time

18.12 The Service Provider hereby undertakes to supply CPUT with updated tax clearance certificates for the duration of this Agreement.

18.13 The Service Provider warrants that he or she complies with his/ her commitments in terms of his black economic empowerment and development programme.

18.14 Any breach of any of the above warranties or any failure to observe the undertakings given shall constitute a material breach for the purposes of clause 15 above.

18.15 The Service Provider undertakes to protect and keep safe and secure all materials and documentation provided by CPUT to the Service Provider and upon discharge of this Agreement by performance or termination, the Service Provider shall return within 14 (fourteen) days to CPUT those materials and documentation.

18.16 The warranties in this clause take effect from the Commencement Date.

19. INDEMNITY

19.1 The Service Provider hereby indemnifies and holds CPUT harmless in respect of all and any claims, payments, compensation awarded, any damages, any losses and/or costs, including legal fees, which–

19.1.1 Any of its Employees may have or institute against CPUT of whatsoever nature;

19.1.2 any third party, may have, acquire or institute against the Service Provider or CPUT related or arising from the Services or a breach of the Services; and / or

19.1.3 any third party may have, acquire or institute against the Service Provider or CPUT related to or arising from any litigation and/or pending litigation between such third party and the Service Provider , including any claims arising from contract, delict, fairness, operation of statute or otherwise including any claim for unfair dismissal, unfair labor practices, discrimination, damages, fines, penalization, back-pay, contributions, health and safety, reinstatement, re-employment, remuneration, notice pay, severance pay, Unemployment Insurance Fund (UIF) contributions, any minimum standard legislation, employment benefits and the like.

20. INSURANCE

The Parties agree that the Insurance requirements for contracts with a value below R50million on;

20.1 Contract Works

20.1.1 With regards to contract works claims, the contractor/Service Provider is responsible for a deductible (excess) of R250 000.

20.1.2 Contractors / Service Providers may re-insure the deductible

20.2 Public Liability

20.2.1 In the event of a claim against the contractor / Service Provider for 3rd party property damage the contractor / Service Provider will be responsible for a deductible (excess) of R275 000

20.2.2 In the event of a claim against the contractor / Service Provider for removal of lateral support, the contractor / Service Provider will be responsible for a deductible (excess) of R500 000

20.2.3 Contractors / Service Providers may re-insure the deductibles

20.3 Professional Indemnity

20.3.1 All Service Providers are responsible for Professional Indemnity (PI) cover of R10 million

20.3.2 Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for Professional Indemnity cover of R5 million

20.3.3 In the event of a claim above R10 million, the CPUT PI cover will kick in for the amount in excess of R10 million.

20.4 Part 1: Notes to Schedule:

20.4.1 The provision of insurance by the CPUT does not limit the obligations, liabilities or responsibilities of the Contractor/Service Provider under this Agreement in any way whatsoever (including but not limited to any requirement for the provision by the Contractor/Service Provider of any other insurances).

20.4.2 This Insurance Schedule is a generic term sheet generally applicable to the CPUT's projects which in the circumstances;

20.4.2.1 If this Insurance Schedule reflects the amount of any cover provided by the CPUT to be higher than the amount required by the engineering consultancy industry norms, the CPUT's obligation under this Agreement is limited to the lower amount; and

20.4.2.2 If this Insurance Schedule provides for any cover which is not stated to be provided by the CPUT in terms of Engineering Consultancy Industry norms, the CPUT's obligation under this Agreement is limited to the cover stated in this Agreement.

21. NOTICES AND DOMICILIA

The parties choose as their domicilia citandi et executandi their respective addresses set out in this clause for all purposes arising out of or in connection with this agreement at which addresses all processes and notices arising out of or in connection with this agreement, its breach or termination may validly be served upon or delivered to the parties.

21.1 For purposes of this agreement the parties' respective addresses shall be –

21.1.1 The CPUT at Director Legal Services
Administration Building,
Cape Peninsula University of Technology,
Cape Town Campus,
Keisersgracht Street, District Six,
Cape Town, 8001

21.1.2 For the Service Provider; Managing Director
Addreess
……..
……..
……..
……..
Telephone number: ……..
Cellphone number: ……..
Email address: …….

21.1.3 Or at such other address in the Republic of South Africa of which the party concerned may notify the other in writing provided that no street address mentioned in this sub clause shall be changed to a post office box or poste restante.

21.2 Any notice given in terms of this agreement shall be in writing and shall

21.2.1 If delivered by hand be deemed to have been duly received by the addressee on the date of delivery;

21.2.2 If posted by prepaid registered post be deemed to have been received by the addressee on the 8th (eighth) day following the date of such posting;

21.2.3 If transmitted by facsimile be deemed to have been received by the addressee on the day following the date of dispatch, unless the contrary is proved.

21.3 Notwithstanding anything to the contrary contained or implied in this agreement, a written notice or communication actually received by one of the parties from another including by way of facsimile transmission shall be adequate written notice or communication to such party.

22. RELAXATION

No latitude, extension of time or other indulgence which may be given or allowed by any party to the other parties in respect of the performance of any obligation hereunder, and no delay or forbearance in the enforcement of any right of any party arising from this agreement, and no single or partial exercise of any right by any party under this agreement, shall in any circumstances be construed to be an implied consent or election by such party or operate as a waiver or a novation of or otherwise affect any of the party's rights in terms of or arising from this agreement or estop or preclude any such party from enforcing at any time and without notice, strict and punctual compliance with each and every provision or term hereof.

23. VARIATION /AMENDMENTS

23.1 No addition to or variation, consensual cancellation or novation of this agreement and no waiver of any right arising from this agreement or its breach or termination shall be of any force or effect unless reduced to writing and signed by all the parties or their duly authorized representatives.

23.2 CPUT may instruct variations in writing and the Service Provider must comply with the instructions, provided the variations are generally consistent with or of a similar nature to the Services.

23.3 The Service Provider must take all reasonable steps to minimize the effects variations on the time to complete the Services.

23.4 When requested by CPUT, the Service Provider must, within the time specified in the request, advise CPUT of its price (including any delay costs) for a proposed variation and the effect on the time to complete the Services, or on any other matter specified in the request

23.5 Unless CPUT instructs the Service Provider to proceed, the Service Provider must not begin to carry out a variation until the parties have agreed on the price and time implications (including any delay costs).

23.6 If the parties agree that a variation applies they must agree in writing on its price and its effect on the time to complete the Services and such variation must be authorized by CPUT.

24. CONFIDENTIALITY

24.1 The Parties shall treat all confidential information as strictly confidential. The receiving party shall not directly or indirectly use the disclosing party’s confidential information for its own benefit nor for the benefit of any other person nor for any

purpose other than carrying out its obligations in accordance with and upon the terms of this Agreement.

24.2 The receiving party shall not disclose confidential information to any person whomsoever other than the receiving party's staff who are directly involved in carrying out the receiving party's obligations in terms of this Agreement and only on a need-to-know basis. Before revealing any confidential information to them, the receiving party shall ensure that staff are made aware of the confidential nature of the confidential information being made available to them and that staff who are-

24.2.1 Employees, have each signed an undertaking with like obligations of confidentiality; and

24.2.2 Sub- contractors, independent contractors, other representatives or agents, have each signed a separate undertaking with like obligations of confidentiality.

24.2.3 The duty of confidentiality shall not apply to any confidential information disclosed by the disclosing party which, through no act or failure on the part of the receiving party:

24.2.3.1 Is or becomes public information,

24.2.3.2 is in its possession at the time of disclosure by the disclosing party,

24.2.3.3 is furnished to the receiving party by a third party without restriction or disclosure,

24.2.3.4 Is developed by or for the receiving party outside the scope of this Agreement, or

24.2.3.5 Is obliged to disclose under law, provided the disclosing party is given a reasonable opportunity to review the planned disclosure and discuss the need for such disclosure.

25. INTELLECTUAL PROPERTY

25.1 CPUT shall become the owner of the information, documents, programs and reports compiled by the Service Provider in the execution of the Services in terms of this Agreement.

25.2 The copyright of all documents, programs and reports compiled by the Service Provider in the execution of the services in terms of this Agreement, shall vest in CPUT.

26. WAIVER

Any failure by a party to insist at any time upon the performance of any of the terms, provisions or undertakings of the defaulting party, contained in the agreement, or to exercise any rights thereunder, shall not constitute or be construed as a waiver thereof or a relinquishment of the party's rights to require the future performance of any such term, provision or undertaking, but the obligation of the defaulting party with regard to the same shall continue in full force and effect.

27. WHOLE AGREEMENT

This agreement constitutes the whole agreement between the parties as to the subject matter hereof and no agreements, representations or warranties between the parties regarding the subject matter hereof other than those set out herein are binding on the parties.

28. AGENCY

The parties agree that this agreement does not constitute as the agent, employee, servant or legal representative of CPUT for any purpose whatsoever and Service Provider is not authorized to assume or create any obligations or responsibilities, whether express or implied, on behalf of or in the name of CPUT unless he is so authorized to do in writing by CPUT.

29. FORCE MAJEURE

29.1 To the extent that it becomes impossible for the Service Provider to perform any obligation in terms of this Agreement because of an event or circumstance that was neither foreseen nor reasonably foreseeable when the Agreement was entered into or which, if the event have been foreseen at that time, cannot be guarded against or avoided by reasonable care or the reasonable acts of the Service Provider, the Service Provider may;

29.1.1 Notify CPUT within 2 (two) days of the nature, extent, effect and likely duration of the vent or circumstances;

29.1.2 Take all commercially reasonable action to remedy or minimize the consequences (and report to CPUT); and

29.1.3 Immediately resume performance of its obligations under this Agreement and notify CPUT when performance of the obligation again becomes possible.

29.2 Performance of any such obligation is suspended for as long as the event or circumstance continue to make the performance possible.

29.3 If the event or circumstance continues for a period exceeding 5 (five) days CPUT may cancel this Agreement on written notice to the Service Provider provided that the obligation which the Service Provider is unable to perform is a material obligation under this Agreement.

30. STUDENT UNREST

In the event of student unrest which resulted in the Service Provider's inability to fulfil its obligations in terms of this Agreement then CPUT shall not be held liable for any costs incurred by the Service Provider for the duration of the unrest period in which the Service Provider was unable to fulfil any of its obligations.

31. CHANGE OF MANAGEMENT AND OWNERSHIP

31.1 The Service Provider shall not be entitled to change its management or to appoint or remove directors from its board of directors, without first informing CPUT thereof in writing.

31.2 The Service Provider shall not be entitled to sell or otherwise dispose of its business or part thereof whether as a going concern or otherwise, and the Service Provider shall procure that its members do not dispose of their interest in the Service Provider, without first informing CPUT thereof in writing.

31.3 No change in the management or the ownership of the business or shares in the Consultancy shall have any effect on the continued validity and enforceability of this Agreement.

32. APPLICABLE LAW

This Agreement is governed by South African law.

33. JURISDICTION

33.1 The Parties unconditionally consent and submit to the jurisdiction of the Magistrates Court, District of Cape Town in regard to all matters arising from this Agreement.

33.2 The Courts of the Republic of South Africa shall have exclusive jurisdiction in all questions and matters relating to this Agreement or arising out of it.

34. SEVERABILITY

If any provision of this Agreement (excluding only those provisions which are essential in law for a valid and binding Agreement to be constituted) is found by any court of competent jurisdiction to be invalid and/ or unenforceable then, notwithstanding such invalidity and/ or unenforceability, the remaining provisions of this Agreement shall be and remain in full force and effect. Each and every provision of this Agreement (excluding those provisions which are essential in law for a valid and binding agreement to be constituted) shall be deemed to be separate and severable from the remaining provisions of this Agreement.

35. SIGNATURE

35.1 This Agreement is signed by the parties on the dates and at the places indicated opposite their respective names.

35.2 This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall be taken together and deemed to be one instrument.

SIGNED

at…….on this…….day of ……..2025.

On behalf of CPUT;

……. ……..

Vice Chancellor Signature

As Witnesses;

1. …… ……..

Print names Signature

2. …… ……

Print names Signature

SIGNED

at…….....on this ……day…….2025.

On behalf of

……..

……. ……

Duly authorized representative Signature

As Witnesses;

1. …… ……..

Print names Signature

2. …… ……

Print names Signature

36. ANNEXURES:

36.1 Project Organogram
36.2 Scope of Services & Pricing Data
36.3 Minimum Standards for Student Accommodation
36.4 CPUT Letter of Award
36.5 Acceptance Letter
36.6 Technical evaluation
36.7 Pricing proposal

ANNEXURE 2:

Pricing Data

NB: The service provider is required to fill in all the required information in the missing spaces. Failure to follow this instruction will render the tender non-responsive.

This document forms part of the Returnable Documents, which will be part of the pricing evaluation.

1. Pricing Instructions

1.1. The Service Provider shall price for all services as described in the scope of services document using the most recent publication Professional Fees Guideline in respect of services provided by person(s) registered in terms of the Architectural Profession Act, 2000, (Act No. 44 of 2000) and Engineering Professional Act, 2000, (Act No. 46 of 200)

1.2. CPUT agrees to pay the Service Provider for the services of as recorded in this contract agreement.

1.3. The project cost-based fee (fee-based on the cost of works) is applied in this agreement. The fees shall be calculated based on the budget of works, and shall be adjusted on the final cost of the work. The final fee is calculated on the final account.

2. Remuneration for Professional Services

2.1. Professional fees for services rendered shall be calculated on the basis of remuneration is a cost-based fee, plus Value Added Tax, all according to the provisions under this tender.

2.2. The amount tendered herein is for tender purposes only and will be amended according to the application of the value fee scale vis-à-vis on the actual cost of construction.

2.3. Reimbursable rates for typing, printing and duplicating work and forwarding charges as set out herein will not be paid for separately. Tenderer must make provision for and include all such costs in their tender when calculating the fees.

2.4. Disbursements in respect of all traveling and related expenses including all traveling costs, time charges and subsistence allowances related thereto will not be paid for separately. Tenderer must make provision for and include all such costs in their tender when calculating the fees.

2.5. The site must be visited as often as the works required for the execution of all duties on the Project. The Service Provider must be available at 24 hours' notice to visit the site if so required. All costs in this regard will not be paid for separately. Tenderer must make provision for and include all such costs in their tender when calculating the fees.

2.6. All additional services highlighted in this document will not be paid for separately. All costs in this regard will not be paid for separately. Tenderer must make provision for and include all such costs in their tender when calculating the fees.

2.7. If the Service Provider has decided not to price a particular item of work as highlighted above, it will be assumed that the Service Provider has included the cost of doing the work within the overall fees.

2.8. All fee accounts must be accompanied by an updated original written certification by the quantity surveyor, if appointed, of the amount(s) on which fees are based. The onus, however, rests on the Service Provider to calculate fees on the appropriate value and according to the correct fee scale, read in conjunction with this Contract.

2.9. Payments to the Service Provider will be made electronically according to the banking details furnished by the Service Provider. Any change in such banking details must be communicated to the departmental project manager timeously. Fee accounts, correct in all respects, will be deemed submitted when received by CPUT and settled when electronically processed by CPUT. CPUT reserves the right to dispute the whole account, any item or part of an item at any time and will deal with such case in terms of Conditions of this Contract.

3. Time-based fees

CPUT may order duties that fall outside the scope of the project as tendered. Any such additional services that may be required will be remunerated on a Time Basis. The level of expertise necessary for any such additional work shall be concomitant with the issues to be addressed. The category of personnel necessary to undertake the work shall be approved by the CPUT.

4. Set off

The CPUT reserves the right to set off against any amount payable to the Service Provider, any sum which is owing by the Service Provider to CPUT in respect of this or any other project.

Table 1: Architectural Professional Services				
Items	Qty	Unit	Rate	Total
Architectural Services, including Principal Consultant Services and Principal Agent Services	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R98,000,000.00**)			**= R**
Additional Services		L/Sum		**= R**
Full Time Construction Monitoring	12	Month	R	**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer for Architectural Services (excluding VAT)			**= R**
			15% VAT	**= R**
			Total Financial Fee Offer for All Services	**= R**

NB:

Total Financial Fee Offer for All Architectural Services highlighted above must be carried over to the Form of Offer and Acceptance. Failure to carry this over to the Form of Offer and Acceptance will render the tender non-responsive.

Table 2: Civil and Structural Engineering Professional Services				
Items	Qty	Unit	Rate	Total
Normal Civil and Structural Engineering Services for the Construction of Civil and Structural Engineering Works	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R43,000,000.00**)			**= R**
Planning, Studies, Investigations and Assessments		L/Sum		**= R**
Additional Services pertaining to all Stages of the Project		L/Sum		**= R**
Construction Monitoring, Level Three Full Time	12	Month	R	**= R**
Geotechnical Engineering Services, including the direct sub-consultant to be appointed by the Service Provider		L/Sum		**= R**
Topographical and Land Surveys, including the direct sub-consultant to be appointed by the Service Provider		L/Sum		**= R**
Environmental investigations, studies and management plans including the direct sub-consultant to be appointed by the Service Provider		L/Sum		**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer for Civil and Structural Engineering Services (excluding VAT)			**= R**

Table 3: Electrical and Electronics Engineering Professional Services				
Items	Qty	Unit	Rate	Total
Normal Electrical and Electronics Engineering Services for the Construction of Electrical and Electronics Engineering Works	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R11,700,000.00**)			**= R**
Planning, Studies, Investigations and Assessments		L/Sum		**= R**
Additional Services pertaining to all Stages of the Project		L/Sum		**= R**
Construction Monitoring, Level Two Part Time	12	Month	R	**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer for Electrical and Electronic Engineering Services (excluding VAT)			**= R**

Table 4: Fire Engineering Professional Services				
Items	Qty	Unit	Rate	Total
Normal Fire Engineering Services for the Construction of Fire Engineering Works	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R5,500,000.00**)			**= R**
Planning, Studies, Investigations and Assessments		L/Sum		**= R**
Additional Services pertaining to all Stages of the Project		L/Sum		**= R**
Construction Monitoring, Level Two Part Time	12	Month	R	**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer Fire Engineering Services (excluding VAT)			**= R**

Table 5: Mechanical Engineering Professional Services				
Items	Qty	Unit	Rate	Total
Normal Mechanical Engineering Services for the Construction of Mechanical Engineering Works	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R8,400,000.00**)			**= R**
Planning, Studies, Investigations and Assessments		L/Sum		**= R**
Additional Services pertaining to all Stages of the Project		L/Sum		**= R**
Construction Monitoring, Level Two Part Time	12	Month	R	**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer Mechanical Engineering Services (excluding VAT)			**= R**

Table 6: Wet Engineering Professional Services				
Items	Qty	Unit	Rate	Total
Normal Wet Engineering Services for the Construction of Wet Engineering Works	Cost-Based Fee Detail calculation of fees must be provided in full (Estimated Value of Works is **R4,500,00.00**)			**= R**
Planning, Studies, Investigations and Assessments		L/Sum		**= R**
Additional Services pertaining to all Stages of the Project		L/Sum		**= R**
Construction Monitoring, Level Two Part Time	12	Month	R	**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer for Wet Engineering Services (excluding VAT)			**= R**

Table 7: Health and Safety Professional Services (Detail calculation of fees must be provided in full)				
Items	Qty	Unit	Rate	Total
Stage 1		L/Sum		**= R**
Stage 2		L/Sum		**= R**
Stage 3		L/Sum		**= R**
Stage 4		L/Sum		**= R**
Stage 5	12	Month	R	**= R**
Stage 6		L/Sum		**= R**
Reimbursable Cost		L/Sum		**= R**
Disbursement Cost		L/Sum		**= R**
	Total Fee Offer for Health and Safety Services (excluding VAT)			**= R**

Table 8: The offered total of the prices inclusive of value added tax is:	
Services	Total
From Table 1 - Total Fee Offer for Architectural Professional Services	**= R**
From Table 2 - Total Fee Offer for Civil and Structural Engineering Professional Services	**= R**
From Table 3 - Total Fee Offer for Electrical and Electronics Engineering Professional Services	**= R**
From Table 4 - Total Fee Offer for Fire Engineering Professional Services	**= R**
From Table 5 - Total Fee Offer for Mechanical Engineering Professional Services	**= R**
From Table 6 - Total Fee Offer for Wet Engineering Professional Services	**= R**
From Table 7 - Total Fee Offer for Health and Safety Professional Services	**= R**
Sub-Total	**= R**
15% VAT	**= R**
Total Financial Fee Offer for All Services	**= R**

NB:

Total Financial Fee Offer for All Professional Services highlighted above must be carried over to the Form of Offer and Acceptance. Failure to carry this over to the Form of Offer and Acceptance will render the tender non-responsive.

ANNEXURE 3:

Scope of Works

1. The Employer's objectives

CPUT's main objective is to construct a new +-400 bed student residence at the Bellville Campus. This tender will only be for the first phase of the project for the construction of block A. The second phase will be for the construction of block B. The residence will cater for the large growing number of students at the Cape Peninsula University of Technology. To flag the project as being a success at the end, all works are to be completed on time, within budget, to the required quality [meet the building regulations and standards, as well as Department of Higher Education and Training (DHET) norms and standards] whilst proactively embracing sustainability principles.

To meet and exceed the above objective, CPUT will appoint a service provider(s) to perform services as described in the scope of services section. The service provider(s) shall perform services of being a Project Leader, Leader Designer, and Cost Manager.

The primary function of a project leader is to lead and direct the design team in a non-technical role including the monitoring and integration of the activities, development and maintenance of a schedule, monitoring of progress and facilitation of the client acceptance of an end of stage deliverable.

The primary function of a lead designer is to establish and refine the design approach or solution so that it achieves the brief as it is progressively developed and is co-ordinated within the project team. The leader designer shall co-ordinate all the sub-consultants and their design services in relation to design or condition assessment services as described in the scope of services section. It is to be noted that lead designer is responsible for providing all works and managing the sub-consultant team. The leader designer's appointment applies as if subcontracted works is of the leader designer.

The primary function of a cost manager is to provide independent and impartial estimation of cost, value management, budget, control and validation of cost of constructing, rehabilitating refurbishing and altering infrastructure as described in the scope of services section.

The details of the professional services required are described in the scope of services section attached in this document. It is to be noted that Lead Designer is responsible for providing all works including the subcontracted works as if the works had not been subcontracted.

2. Background

CPUT has secured funding to construct the new student residence at the Bellville Campus to accommodate for the large growing number of students at the Cape Peninsula University of Technology.

The built environment professionals are required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the DHET norms and standards for infrastructure delivery for a higher education institution.

3. Overview and Extent of the works

The works comprise of the construction of a new student residence on the Bellville campus.

4. High-Level Project Approach

The service provider(s) will be appointed to complete stages 1 to 6.

5. Project Description

Cape Peninsula University of Technology, Bellville Campus: Construction of a new student residence.

6. Project Name & Number & Budget

Project name: Construction of a new student residence in Bellville Campus.

Project number: DH24-004

Project budget: R133,000,000.00 (incl. professional fees and construction costs)

7. Location of the Project

The Cape Peninsula University of Technology, Bellville Campus in Cape Town, South Africa, Portion of erf number 40771, Map Co-ordinates: 33°56'00"S 18°38'29"E. See the site information for more details.

8. Project Programme

The programme for the project is split as follow:

The estimated duration of pre-construction period is twelve (12) months from the appointment of the professional Service providers, at which six (6) months is for design (stage 1 to 3) and six (6) months for council submission and tender documentation and procurement, including tender evaluation and approvals. Duration of construction period is twelve (12) months upon the appointment of the contractor.

A programme for the performance of services shall be submitted by the service provider to the project manager, within a period of two (2) weeks following the project briefing meeting. The programme will be the result of the coordination of all appointed service providers' inputs and shall be in sufficient detail describing key milestones, events, and activities linked to the fastest realistic timeframes in which the service can be delivered. Milestones and events are to be listed based on the scope of services described in the scope of service document. No

milestones may, at the coordination stage, be extended beyond the timeframes outlined in the project programme without acceptable reasons.

9. Target dates and times

The service provider will be expected throughout to give preference to the execution of the work involved in this commission. The work of all service providers will be coordinated by the project manager.

10. Information available from CPUT

All necessary information needed by the service provider regarding the project may be received from Project Manager on request, if available.

11. Other Contracts on Site

Not applicable.

12. Use of material

CPUT has the right to use the material provided by the Service providers for the purpose stated in the scope. The service provider obtains from a subcontracted Service providers equivalent rights for CPUT to use material prepared by the subcontracted Service providers. The service provider has the right to use the material provided by CPUT only to provide the services required for the purpose stated in the scope. The service provider may make this right available to the subcontracted Service providers.

13. Existing information

At the existing information, which is attached in this document under Annexures is as follow:

a) Development Master Plan

b) Stormwater Master Plan

c) Sewer Master Plan

d) Water Master Plan

e) Transport Report

f) DHET Minimum Standards for Student Accommodation

g) Accommodation Schedule

h) Concept layouts

14. Specifications

14.1 General

Service providers shall in the provision of the services observe all relevant statutes, by-laws, and associated regulations, standards of professional conduct and industry norms established in relevant South African national standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

Service providers shall take into account the existing information when providing the required services.

Service providers shall provide the services in accordance with the relevant provisions of the Standard Scope of Professional Services associated with the Architect, Civil and Structural Engineer, Electrical and Electronics Engineer, and Mechanical Engineer (HVAC System, Extraction System, Lift, Gas and Compressed Air Systems, Wet Services, and Fire Services).

In the event of any service provider cannot continue providing the service for any orders, it is the service provider's responsibility to ensure that a suitably qualified person acceptable to CPUT replaces the key person. CPUT reserves the right to appoint another Service provider.

14.2 Production information requirements

Construction requirements shall be described in terms of South African national standards published by the South African Bureau of Standards where such standards exist and their scope covers such requirements.

Construction requirements shall not be described in terms of a part of SANS 1200, standardised specification for civil engineering construction if such requirements fall within the scope of a part of SANS 2001, construction works.

Construction requirements for buildings and structures which are required to comply with the requirements of National Building Regulations shall be described in terms of a part of SANS 2001, construction works, where such standards exist.

A bill of quantities shall not be used as a substitute for production information.

The Standard Scope of Professional Services associated with the delivery of with the Architectural, Civil and Structural Engineering, Electrical and Electronics Engineering, and Mechanical Engineering services.

14.3 Standard systems of measurements

Bills of quantities where required, shall be prepared in accordance with the provisions of the following standards:

a) Standard System of Measuring Builders Work – Edition 7 (2015) published by the Association of South African Quantity Surveyors

b) Civil Engineering Standard Method of Measurement – Southern African Edition – CESMM3 published by ICE-SA, a joint division of the South African Institution of Civil Engineers and the Institution of Civil Engineers.

Elemental costs estimates shall be prepared in accordance with the provisions of the Association of South African Quantity Surveyor's Guide to Elemental Cost Estimating and Analysis for Building Works 2013.

15. Attendance at Meetings

The service provider shall attend meetings whenever deemed necessary for the proper execution of the project. It is advisable that visits to the site for progress valuation purposes be arranged to coincide with monthly site meetings. A briefing meeting will be held as soon as possible after the appointment of the professional team. At this meeting important aspects regarding the budget, documentation program, building program, site, etc. will be discussed. Ad-hoc meetings may be convened to deal with specific issues that may arise.

16. Reporting Requirements and Approval Procedure

The service provider may interact directly with the CPUT architect, Consultants and Contractor. The service provider will be required to keep the Project Manager informed of all interactions. Notwithstanding any other requirements as listed elsewhere, the service provider shall submit a monthly report indicating progress of the services.

17. Correspondence

The project name and number indicated in the agreement must be quoted in all correspondence including accounts for professional fees (at which a purchased order number must be quoted as well). All correspondence between CPUT and the service provider must be addressed to the Project Manager.

18. Facilities and equipment to be provided by the Service provider

Service providers shall provide all equipment and facilities required to provide the services relating to the required service.

19. Procurement of specialist studies, inputs, advice and tests

The service providers shall:

a) obtain CPUT prior permission to procure specialist studies, inputs, advice, and tests; and

b) either obtain three quotes for studies, inputs, and tests and award a contract to the service provider offering the best value for money or engage a sole provider at open market rates.

20. Closeout stage

The closeout report shall include the assignable square meters for each building type, the gross square meterage of the buildings and the final proposed occupancy numbers per room. The closeout pack must include the following:

- All compliance certificates such as the occupancy certificate, electrical certificate, plumbing certificate, PIRB compliance certificate, glazing certificate, A19 roof certificate etc.
- Guarantees and warranties
- Operating and maintenance manuals and any other supplier details
- Completion certificates including snag lists
- Happy letter signed by the end-user
- Final account
- As-builts
- Electronic copies of design drawings in DWG and PDF format
- Electronic copies of specifications and calculations
- Quality assurance documentation (test results and reports, inspection reports etc.)
- And any other pertinent information required

21. Document management system

Service providers shall provide documents and manage them in accordance with the requirements established by the project manager.

22. Final disposal of documents

Upon approval and finalisation of the projects, it is a requirement that the service provider forwards to the CPUT all documents relating to this service. The same also may be requested on projects not requiring a security clearance.

23. Bid

Advertising for the purpose of inviting bidder and the selection and acceptance of a bid for the execution of the project shall be the function of CPUT. The service provider shall be involved in the process.

24. Contract Administration

The service provider is expected to provide sound, practical pre-contract advice, to prepare all necessary documentation and to administer and finalise the contract in an unbiased, firm and contractual manner. Under no circumstances may the contractual requirements be deviated from.

25. Use of Reasonable Skill and Care

It will be expected of the service provider to apply reasonable skills and due diligence in the execution of the duties stipulated in this document which shall include inter alia the following:

a) Although the service provider's documents may be scrutinised by CPUT, this shall in no way relieve him of his professional responsibility for the proper and prompt execution of his duties. CPUT shall also be entitled to have any documentation or calculations verified by Others. In the event of mal-performance, default or negligence, CPUT shall have the right to claim compensation or damages and set off such against any amount payable.

b) During assessment of any existing facilities, which may have a direct bearing on the Project, the service provider shall determine deficiencies with such facilities in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the SANS 10400, etc. and recommend measures to rectify those during the project execution phase.

c) The Project Manager shall be notified by the Service Provider and his personnel of any transgression of inter alia the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and environmental legislation during the Service Provider's operation pertaining to the Contract regardless of who may be involved.

26. Co-operation with other Services Providers

It will be required of the Service Provider to co-operate with the following:

a) Project Manager – CPUT at this stage

b) Architect/ Principal Agent - Unknown at this stage

c) Structural and Civil Engineer - Unknown at this stage

d) Mechanical Engineer - Unknown at this stage

e) Electrical and Electronics Engineer - Unknown at this stage

f) Wet Services Engineer - Unknown at this stage

g) Fire Engineer - Unknown at this stage

h) Health & Safety Consultant - Unknown at this stage

i) Quantity Surveyor - Unknown at this stage

The required professional services will be executed by the professional team under the control and management of the designated Project Manager. CPUT reserves the right to replace the Project Manager with another member of its staff or any individual/firm from the private sector should it be deemed necessary at any stage during the execution of the project.

27. Occupational Health and Safety Act

CPUT shall appoint a service provider under a separate contract as its "agent" as contemplated in the Construction Regulations to the Occupational Health and Safety Act, 1993 (Act 85 of 1993). The service provider under this contract shall, however, make provision for the incorporation of the Occupational Health and Safety specifications, compiled by others, in the tender documentation, if applicable.

Furthermore, the service provider shall be fully responsible for the compliance of his operation, equipment as well as staff and persons under his supervision on site whether by invitation, instruction or otherwise and regardless of the capacity, purpose and relationship of any such persons to the appointment, to all aspects of all applicable regulations and stipulations under the act.

28. Other role players

Local, provincial and national authorities, statutory bodies, governmental departments, Others, as may be required from time to time, including the client department/end user(s).

29. Consulting Team

In terms of their various agreements, all service providers are required to liaise very closely with one another during all stages of the project and to keep each other fully informed of all relevant developments.

30. Responsible Member/s: Firms in Association/Team of Consultants/Consortium/Joint Venture

In the case of firms appointed in association as a team of Consultant/Consortium/Joint Venture, the service providers are requested in the letter of appointment to agree, together with the other members, to the nomination of a representative of the group, who will act as the lead service provider for the purpose of liaison with CPUT.

30. Appointment of a Service Provider

CPUT will appoint a service provider, and the commission will be subject to the terms and conditions in the letter of appointment and contract agreement.

31. Local content

It is the request of CPUT to give preference to materials and equipment of South African manufacturer. The service provider is to ensure that, wherever feasible, designs are based on locally manufactured equipment and materials which can meet requirements at competitive prices.

32. Design innovation

Given the need for energy efficiency and environmental sustainability in the built environment, each member of the professional team is required, wherever possible and applicable, to demonstrate design innovation in all aspects of the service towards “green” design solutions. Aspects to be considered and incorporated in all new building and/or maintenance designs are, inter alia but not limited to,

a) Sustainable development

   E.g. in building form, material choice, construction detailing and methods, recycling ability;

b) Energy efficiency e.g.

   i. passive design methods towards energy conservation and consumption: building orientation, exploitation of nature’s inherent energy sources),

   ii. energy efficient solutions and installations for lighting, ventilation, cooling, heating, etc (e.g. energy efficient light fittings),

   iii. alternative or renewable energy sources where practical/feasible/economical;

c) Water conservation/saving/re-use methods; and

d) Environmental friendliness (e.g. respect for natural habitat, blending of building with site/ environment/surrounding fabric, positioning of buildings, consideration of neighbouring sites’ access to sun, wind, view, etc.).

33. Applicable legislation and standards

This section applies to legislation emanating from national and provincial governments as well as that of any local authorities in whose area of jurisdiction the subject of the appointment falls and which has a bearing on the activities and facilities under this appointment.

All the applicable legislation, which do not specifically allow discretion in respect of compliance by the State, shall be followed exactly as intended by such legislation regardless of any

instructions, verbal or in writing, to the contrary. (Refer inter alia to Section 41 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)).

Should any applicable legislation allow discretion in respect of compliance by the State, it shall be followed exactly as intended by the relevant legislation as if no discretion is allowed until such time as specific instructions in writing are issued to the appointed professional team by Project Manager.

The service provider undertakes to ensure that his actions and outcome thereof including, but not limited to, the facilities to be affected by the service shall be in accordance with all relevant legislation and upon delivery, will function as required by said relevant legislation. The service provider's actions and the outcome thereof will in no way be detrimental to the health and safety of the occupants or persons present therein or in the vicinity thereof. Similarly, it must not be detrimental to any aspects of the environment in its structure or operation if operated as specified in the operation manual(s). The relevant legislation meant herein, as amended, consist of inter alia the following, but not limited to:

- Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965);
- Construction Industry Development Board Act, 2000 (Act 38 of 2000);
- Council for the Built Environment Act, 2000 (Act 43 of 2000);
- Electricity Act, 1987 (Act 41 of 1987);
- Engineering Profession Act, 2000 (Act 46 of 2000);
- Environmental Conservation Act, 1998 (Act 107 of 1998);
- Fire Brigade Services Act, 2000 (Act 14 of 2000);
- Local Government Municipal Systems Act, 2000 (Act 32 of 2000), municipal by-laws and any special requirements of the local service supply authority;
- National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977);
- National Environmental Management Act, 1998 (Act 107 of 1998);
- National Heritage Resources Act, 1999 (Act 25 of 1999);
- National Water Act, 1998 (Act 36 of 1998);
- Occupational Health and Safety Act, 1993 (Act 85 of 1993);
- Telecommunications Act, 1996 (Act 103 of 1996);
- Water Services Act, 1997 (Act 108 of 1997) and general authorizations;

- the latest issue of SANS 10142: "Code of Practice for the Wiring of Premises";
- the Regulations of the local Gas Board, where applicable and
- all regulations promulgated under the above Acts.

This will be a continuous process throughout the appointment, which will manifest itself during the following phases:

- development of plans and documentation;
- supervision of Service providers appointed;
- ensuring compliance of the end product;
- compiling and issuing of Instruction/Operational Manuals indicating inter alia what the legal and safety requirements entail for the user(s)/operator(s) of the facilities;
- providing instruction to the intended users/operators.

The service provider accepts full and complete responsibility (both contractually and/or in delict) regarding compliance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) for his acts and omissions as well as those of his employees and indemnifies the CPUT against any legal action in this regard.

The service provider undertakes to ensure that the requirements of the Occupational Health and Safety Act, 1993 will similarly apply to the agreement with any sub service providers inclusive of indemnifying CPUT against any legal action regarding the actions and/or omissions by them.

34. Access to land/buildings/sites

Access to the land/buildings/sites shall be negotiated in consultation with the Project Manager.

35. Software application for programming

The service provider must avail himself of software to be used in the Project documentation for compatibility with other service providers as well as CPUT. Specific requirements for compatibility are specified in the relevant manuals.

36. Security clearance

It is an explicit condition of this agreement that partners, directors and/or the members of staff who will have insight into the planning of projects requiring a security clearance, be kept to a minimum and that such persons will not object to being submitted to a security clearance if CPUT so requires.

If the latter is applicable, the necessary forms will accompany this bid or be provided to the service provider at any stage thereafter. These forms must be completed, if attached, and returned with the bid. It is important to furnish information which is complete in every respect. Should the authority responsible for the clearance, for security reasons not be satisfied with the classification obtained of any of the staff members of the service provider, it will be a further condition of this appointment that none of such staff members be involved with any aspect of the project.

All documents pertaining to these projects must be stored in a safe place when not in use so as to ensure that the level of security of the projects is maintained. CPUT will not accept liability for any costs in this regard.

37. Forms for contract administration

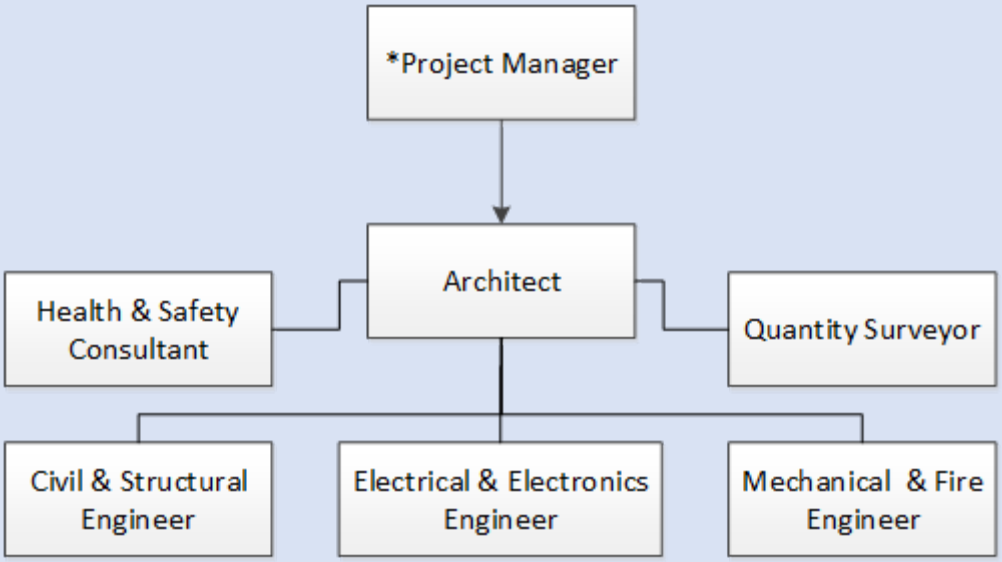
The service provider shall provide all forms required during contract administration. The agreement and conditions of contract to be entered into with the main contractor shall be the most recent version of the JBCC.

ANNEXURE 4:

Project Organogram

PROJECT ORGANOGRAM

The project organogram below shows the reporting structure of the various components.



ANNEXURE 5:

Scope of Services

Architectural Professional Services and Engineering Professional Services

ANNEXURE 5.1:
Architectural Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full architectural professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute his work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT. The service provider may interact directly with the CPUT architect on architectural specific matters. The service provider will be required to keep the Project Manager informed of all interactions. The service provider is also required to manage and oversee the full professional team.

4. Description of the Services

The services required are the architectural professional services as defined in the most recent publication Framework for the Professional Fees Guideline in respect of services provided by the person(s) registered in terms of the Architectural Profession Act, 2000 (Act No. 44 of 2000).

5. Extent of Services

The architectural services shall be provided by the architectural professional is full services from stage 1 to 6 as gazetted in the most recent publication framework for the Professional Fees Guideline in respect of services provided by person(s) registered in terms of the Architectural Profession Act, 2000 (Act No. 44 of 2000), which include the services of a Principal Consultant and Principal Agent.

6. Additional Services

The following services are additional to the standard service and qualify for additional fees:

6.1.1. Special Design Services

The special design services include the following:

a) Rational design by other consultants – participation in the preparation of rational designs.

b) Town-planning and/or urban design including participation in the application for the establishment and/or amendment of regional and local town-planning and urban design schemes and the amendment of title conditions, negotiations with interest groups and authorities;

c) Landscape design – participation in landscape planning and design

d) Interior design – the design of interiors and the selection of furnishings, fixtures and finishes

e) Liaison with special designers and specialist consultants

6.1.2. Special Management Services:

Not applicable.

6.1.3. Special Studies

The special studies services include the following:

a) Site selection – research the suitability and location of a site for a proposed budget.

b) Feasibility studies – participation in technical and/or economic feasibility studies

c) *Environmental studies* —participation in environmental studies;

d) Traffic studies — participation in traffic-flow studies.

6.1.4. Work on Existing Premises

Surveys and inspections – inspect, survey, measure and prepare documentation of existing premises with other consultants as needed

6.1.5. Other Services

Additional to the above mentioned services, the following services shall be required:

a) Coordinate all designs by all other consultants;

b) Execute services of a Lead Design;

c) The consultant must make available construction monitoring staff on a full-time basis;

d) CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.2:

Civil and Structural Engineering Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full civil and structural engineering professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the engineering professional services as defined in the most recent publication Board Notice, Notice 151 of 2014, Engineering Council of South Africa, Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

5. Extent of Services

The extent of services required from the service provider are as follow:

5.1 Planning, Studies, Investigations, and Assessments

These services include but limited to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies.

5.2 Normal Services

Normal services include stage 1 to stage 6:

a) Stage 1 - Inception

b) Stage 2 - Concept and Viability (also termed Preliminary Design)

c) Stage 3 - Design Development (also termed Detail Design)

d) Stage 4 - Documentation and Procurement

e) Stage 5 - Contract Administration and Inspection

f) Stage 6 - Close- Out

5.3 Additional Services

The following services additional services are required from the services:

a. Additional Services pertaining to all Stages of the Project

b. Construction Monitoring (The consultant must make available construction monitoring staff for Level Three, Full-time). The Civil / Structural Engineer shall, as part of the professional services, provide a qualified Resident Engineer (RE) to be stationed on-site for the duration of the construction period, subject to the terms and conditions outlined below:

The Resident Engineer must be professionally registered with ECSA with a minimum of 7 years of adequate structural design and site supervision experience of similar structures. Minimum professional insurance requirement is R10 million.

Scope of Resident Engineer's Duties:

The Resident Engineer shall:

- Provide full-time site presence (same working hours as the contractor) for idependant site supervision and monitoring of structural and civil works.
- Conduct regular inspections to ensure construction works comply with approved designs, drawings, specifications, and relevant standards.
- Attend site meetings and submit progress reports to the Civil / Structural Engineer and/or Principal Agent.
- Identify non-conformances and report defects or deviations to the Engineer.

- Facilitate technical coordination between the Contractor, Civil and Structural Engineer, and other relevant consultants as required.
- Maintain daily site records, including weather conditions, contractor activities, material testing, inspections and any site instructions issued.
- Provide technical support and advice to the Principal Agent and Client as reasonably required and monitor the programme and identify risks to the Engineers.
- Monitor the quality on site and sign off structural and civil works.
- Mark-up drawings to allow for the production of as-built drawings.
- Sign off as-built information

Reporting and Communication:

- The Resident Engineer shall report directly to the Engineer and coordinate with the Principal Agent regarding site activities.
- The Resident Engineer does not hold authority to alter designs or issue instructions that materially affect the project scope, cost, or programme, unless expressly authorised in writing by the Engineer or Principal Agent.

Duration of Appointment:

- The Resident Engineer's appointment shall commence from the start of construction activities and shall continue until the completion of works, unless otherwise agreed.

c. Geotechnical engineering services – geotechnical investigation complete with test results and foundation recommendations of the site
d. Topographical and land surveys - engineering survey of the site including benchmarks, contours, existing structures, services, topographical detail and verification corner peg positions of the site.
e. Environmental investigations, studies, and management plans - Ensure compliance with the requirements of the National Environmental Management Act in terms of

Environmental Impact Assessment (EIA), Record of Decision (RoD), Environmental Management Plan (EMP), etc.

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.3:

Electrical and Electronic Engineering Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full electrical and electronic engineering professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the engineering professional services as defined in the most recent publication Board Notice, Notice 151 of 2014, Engineering Council of South Africa, Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

5. Extent of Services

The extent of services required from the service provider are as follow:

5.1 Planning, Studies, Investigations, and Assessments

These services include but limited to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies.

5.2 Normal Services

Normal services include stage 1 to stage 6:

a) Stage 1 - Inception

b) Stage 2 - Concept and Viability (also termed Preliminary Design)

c) Stage 3 - Design Development (also termed Detail Design)

d) Stage 4 - Documentation and Procurement

e) Stage 5 - Contract Administration and Inspection

f) Stage 6 - Close- Out

5.3 Additional Services

The following services additional services are required from the services:

a) Additional Services pertaining to all Stages of the Project

b) Construction Monitoring (The consultant must make available construction monitoring staff for Level Two, Part-time)

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.4:

Fire Engineering Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full fire engineering professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the engineering professional services as defined in the most recent publication Board Notice, Notice 151 of 2014, Engineering Council of South Africa, Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

5. Extent of Services

The extent of services required from the service provider are as follow:

5.1 Planning, Studies, Investigations, and Assessments

These services include but limited to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies.

5.2 Normal Services

Normal services include stage 1 to stage 6:

a) Stage 1 - Inception

b) Stage 2 - Concept and Viability (also termed Preliminary Design)

c) Stage 3 - Design Development (also termed Detail Design)

d) Stage 4 - Documentation and Procurement

e) Stage 5 - Contract Administration and Inspection

f) Stage 6 - Close- Out

5.3 Additional Services

The following services additional services are required from the services:

a) Additional Services pertaining to all Stages of the Project

b) Construction Monitoring (The consultant must make available construction monitoring staff for Level Two, Part-time)

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.5:

Mechanical Engineering Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full mechanical engineering professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the engineering professional services as defined in the most recent publication Board Notice, Notice 151 of 2014, Engineering Council of South Africa, Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

5. Extent of Services

The extent of services required from the service provider are as follow:

5.1 Planning, Studies, Investigations, and Assessments

These services include but limited to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies.

5.2 Normal Services

Normal services include stage 1 to stage 6:

a) Stage 1 - Inception

b) Stage 2 - Concept and Viability (also termed Preliminary Design)

c) Stage 3 - Design Development (also termed Detail Design)

d) Stage 4 - Documentation and Procurement

e) Stage 5 - Contract Administration and Inspection

f) Stage 6 - Close- Out

5.3 Additional Services

The following services additional services are required from the services:

a) Additional Services pertaining to all Stages of the Project

b) Construction Monitoring (The consultant must make available construction monitoring staff for Level Two, Part-time)

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.6:

Wet Engineering Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full wet engineering professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the engineering professional services as defined in the most recent publication Board Notice, Notice 151 of 2014, Engineering Council of South Africa, Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

5. Extent of Services

The extent of services required from the service provider are as follow:

5.1 Planning, Studies, Investigations, and Assessments

These services include but limited to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies.

5.2 Normal Services

Normal services include stage 1 to stage 6:

a) Stage 1 - Inception

b) Stage 2 - Concept and Viability (also termed Preliminary Design)

c) Stage 3 - Design Development (also termed Detail Design)

d) Stage 4 - Documentation and Procurement

e) Stage 5 - Contract Administration and Inspection

f) Stage 6 - Close- Out

5.3 Additional Services

The following services additional services are required from the services:

a) Additional Services pertaining to all Stages of the Project

b) Construction Monitoring (The consultant must make available construction monitoring staff for Level Two, Part-time)

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

ANNEXURE 5.7:

Health and Safety Professional Services

1. CPUT's Objectives

This tender is for:

A service provider to perform full health and safety professional services for the construction of a new student residence at the Bellville Campus that will cater for the large growing number of students at the Cape Peninsula University of Technology.

2. Scope

Construction of a new student residence shall comply with the most recent publication Policy on the Minimum Norms and Standards for Student Housing at Public Universities, in terms of the Higher Education Act, 1997 (Act No. 101 of 1997).

The service provider is required to undertake the standard responsibilities as required by the respective built environment profession, as well as to conform to the Department of Higher Education's (DHET) standards and norms for infrastructure delivery for a higher education institution. In the provision of the services, the service provider shall observe all relevant statutes, by-laws and associated regulations, standards of professional conduct and industry norms established in relevant South African National Standards published in terms of the Standards Act of 2008 or standards recommended by professional associations.

3. Appointment

The service provider is required to execute work in accordance with the agreement, the principles as set out and any written supplementary instructions issued by CPUT.

4. Description of the Services

The services required are the health and safety professional services as required to be legaly compliant in terms of Occupational Health and Safety Act and Regulations.

5. Extent of Services

The extent of services required from the service provider are as follow:

5.4 Normal Services

Normal services include stage 1 to stage 6:

a. Stage 1 - Inception

b. Stage 2 - Concept and Viability (also termed Preliminary Design)

c. Stage 3 - Design Development (also termed Detail Design)

d. Stage 4 - Documentation and Procurement

e. Stage 5 - Contract Administration and Inspection

f. Stage 6 - Close- Out

5.5 Additional Services

The following services additional services are required from the services:

a) Additional Services pertaining to all Stages of the Project

b) Construction Monitoring

CPUT may order duties that fall outside the scope of the project as bided. If required at a later stage this will be based on a three quote system.

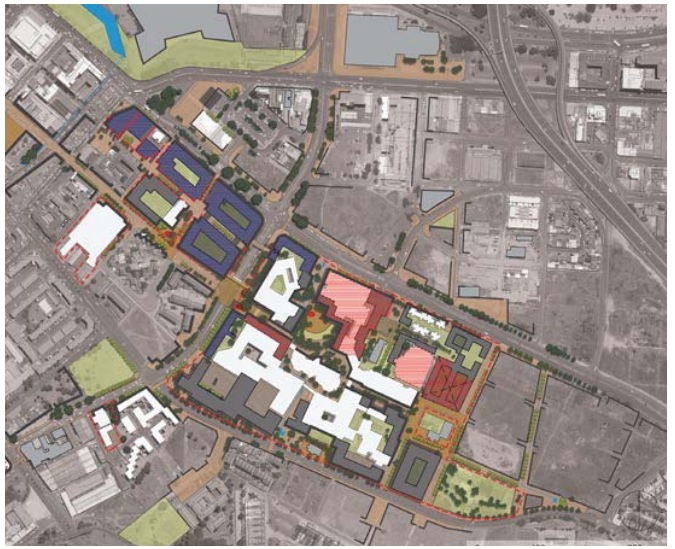
ANNEXURE 6:

Site Information

CPUT

SG26 Code:	C01600020004077100000000000
Official Suburb Name:	CPUT
Subcouncil Name:	Subcouncil 6
Ward Name:	9
ISIS Key:	28588477
Addr No:	10
Address No Suffix:	
Street Name:	SYMPHONY
Street Name Type:	Way
Vested Type:	No Vesting
Status:	Official
Allotment Name:	BELLVILLE
Legal Status SG:	Registered
Property Number:	40771
Zoning Description:	Community 2 : Regional
SUB_CNCL_NMBR:	6
Extent (Sq m):	610393.95

CAPE PENINSULA UNIVERSITY OF TECHNOLOGY CAMPUS MASTERPLAN



MASTERPLAN DOCUMENT

REPORT JULY 2014

Cape Peninsula
University of Technology

Document prepared by:
City Think Space
Tarna Klitzner Landscape Architect
Sarah Winter Heritage Consultant
Jeffares & Green
Paul J Carew Consulting
ARUP Transport Planning

List of acronyms

GR	General Residential Zone
CO	Community Zone
EIM	Environmental Impact Management
SDP	Spatial Development Plan
SDF	Spatial Development Framework
IRT	Integrated Rapid Transport
NMT	Non-Motorised Transport

CITY THINK SPACE

6. BELLVILLE CAMPUS

6.1. LOCATION AND CONTEXT

6.1.1. HISTORY

The Bellville Campus, built in 1976, is typical of the Apartheid Planning model. At the time it was built, it was isolated from the city centre and any surrounding development. The character of the campus is suburban, typical of modernist planning. The location and form of the campus contributes to the division of the city. See Figure. 34.

6.1.2. CONTEXT AND ROLE

The Bellville Campus is located at a central point to Bellville CBD (major student, business and retail centre) and the airport (link to the rest of the world). Surrounding the campus are places of industry, health, education and innovation. The campus plays a role if the 'connector' between these urban elements. It also plays a role in the contextual green network creating a link between the nature reserve associated with the University of the Western Cape (UWC) and the proposed rehabilitated waster water treatment plant and rubbish dump converted into a public, green, recreation space. See Figure. 35.

6.1.3. ACTIVITY

The faculties of Health and Wellness and Engineering are located on the Bellville Campus. These faculties connect to, and are enhanced by, surrounding activities of industry and green space. See Figure. 36.

6.1.4. ACADEMIC FOCUS

The site is 61.06 ha in extent. The campus houses the faculties of Applied Sciences, Engineering and Health and Wellness Science. The campus accommodates 2 552 students in on site accommodation.

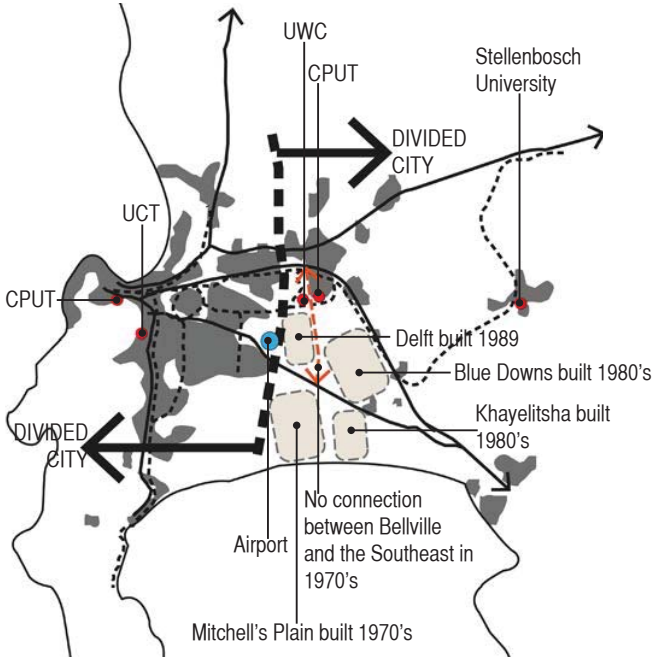
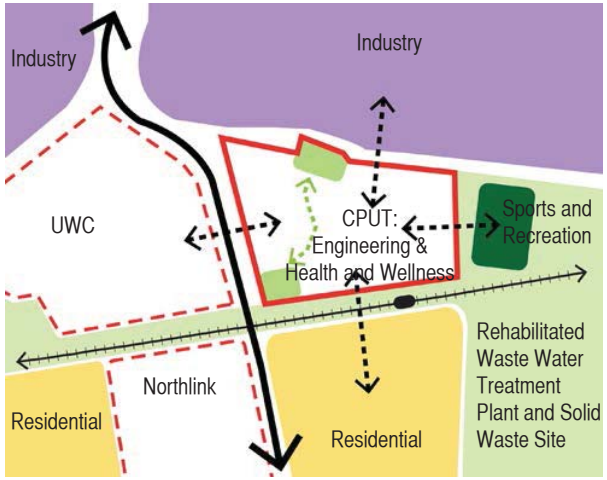
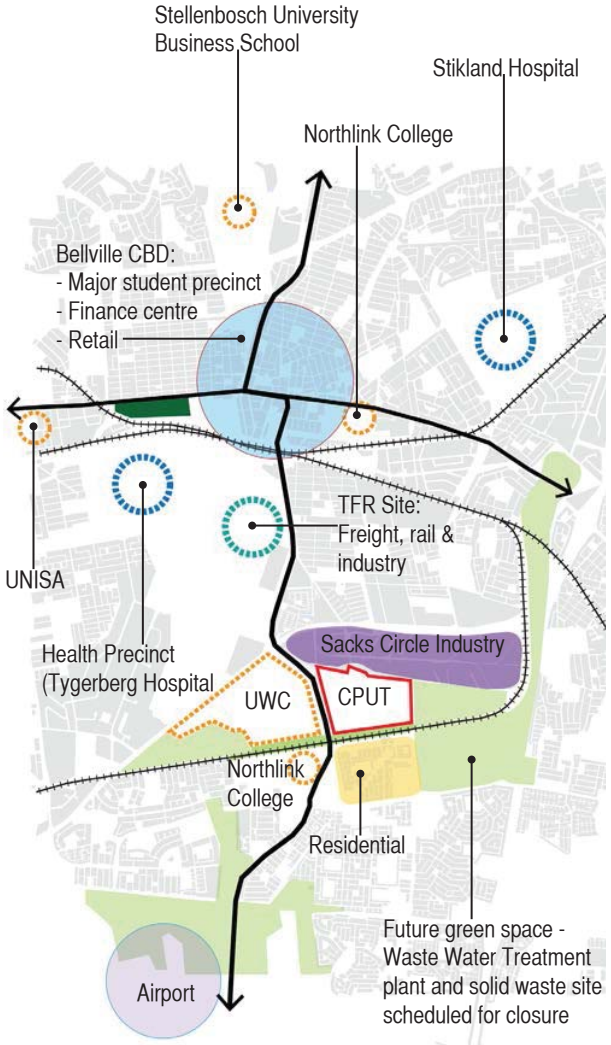


FIGURE. 35. HISTORIC CONTEXT OF BELLVILLE CAMPUS



Role Cue: CPUT Faculties of Engineering and Health and Wellness connect to, and are enhanced by, activities surrounding the campus

FIGURE. 37. BELLVILLE CAMPUS ROLE: ACTIVITY



Cues for Role:
A connector place; a place of industry and logistics; health and innovation

FIGURE. 36. BELLVILLE CAMPUS SUBMETROPOLITAN CONTEXT

The campus comprises of conventional university functions including administration, academic space, student residences and facilities, sporting and recreation facilities. While the bulk of the residences are located to the south of the campus, the academic functions are dispersed.

The sports fields located to the east of the site are disconnected from the rest of the campus.

PHOTO. 49. PUBLIC SPACES OF THE CAMPUS ARE HARSH ENVIRONMENTS AND UNOCCUPIED BY STUDENTS DURING THEIR FREE TIME

PHOTO. 50. BLANK INACTIVE FACADES OF BUILDINGS DO NOT ENGAGE WITH THE SURROUNDING ENVIRONMENT

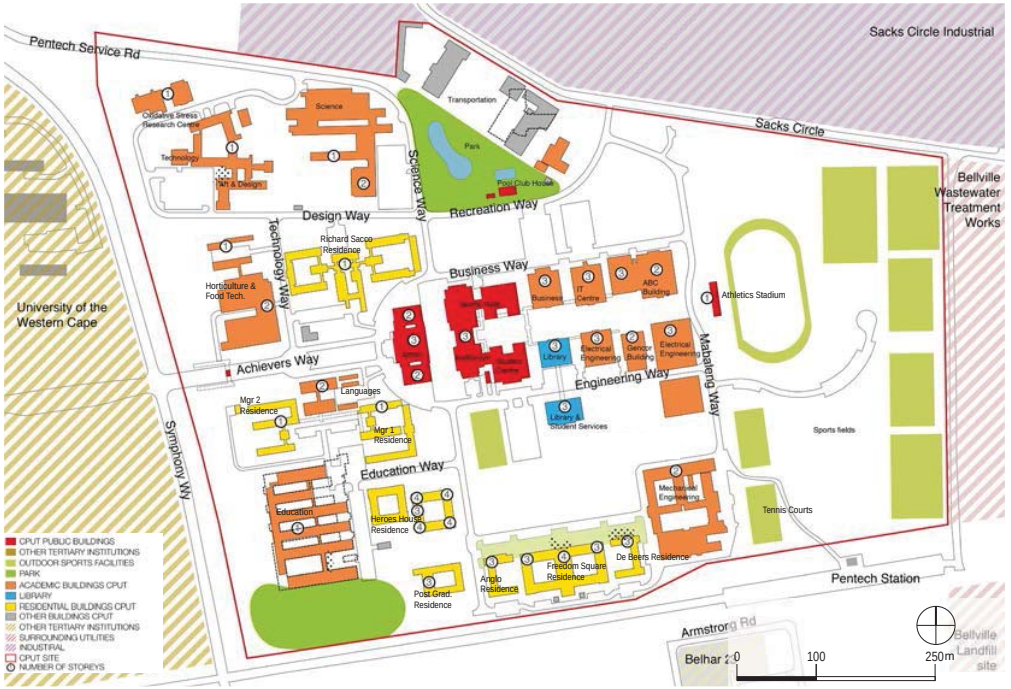


FIGURE. 38. BELLVILLE CAMPUS: CURRENT LAND USE AND STOREYS

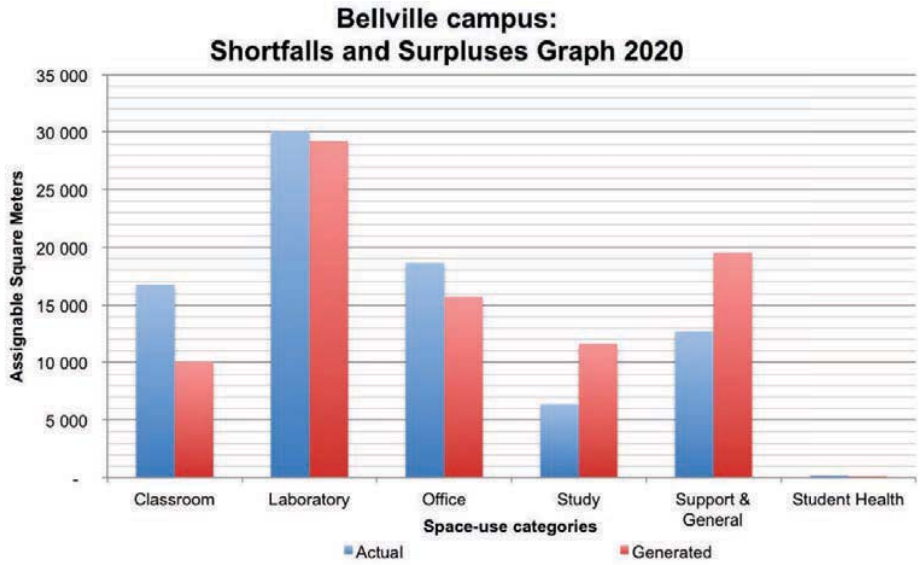


FIGURE. 39. BELLVILLE CAMPUS: CURRENT SHORTFALLS AND SURPLUSES ACCORDING TO 2020 PROJECTIONS

6.2. SPATIAL AND DEVELOPMENT CONSTRAINTS AND INFORMANTS

This section reviews the main constraints and informants impacting of the site.

6.2.1. HERITAGE AND CAMPUS SPACE

There are no significant heritage features on or around the campus. The campus generally lacks a sense of place and is a classic example of “lost space”, where everywhere is nowhere and the lack of spatial definition and enclosure result in a sense of alienation and disorientation.

The existing campus network is shown in Figure. 39:

- The central space and designated ‘heart’ of the campus is difficult to locate, embedded within the core buildings of the campus;
- The spaces beyond this core are disconnected and isolated as the core buildings focusing inward and away from the peripheral spaces;
- Outside of the core, much of the large open spaces are used as parking lots;
- The scale of the buildings and lack organisation create dead open spaces that are incoherent and underutilised;
- The low density, sprawling character of the site, together with the uniform building heights and materials make the campus difficult to navigate; and
- The green, landscaped extensive nature of the campus is compromised by the pervasive parking throughout creating a car-dominated campus unpleasant and unsafe for pedestrians.

6.2.2. LANDSCAPE AND CLIMATE

The primary landscape and climate issues of the campus are:

- The predominantly flat, with a slight north to southwest sloped terrain of the campus;
- A natural water drainage channel that flows from the park lake in the north to the detention pond in the southwestern corner;
- The well maintained but vast park-like open space that dominates the site;
- The park in the north of the campus is one of the only well utilised green open spaces which includes a swimming pool and lake;
- The sports fields which are underutilised, inactive and lack surveillance;
- The harsh, southeasterly and northwesterly winds batter the campus and the rigid north-south alignment of the campus buildings creates wind tunnels between buildings;
- Landscaping and trees struggle to grow in the harsh, windy climate;
- The prevailing southeasterly winds also carry unpleasant odors from the adjacent Wastewater Treatment Works and Landfill Site to the south and east of the campus;

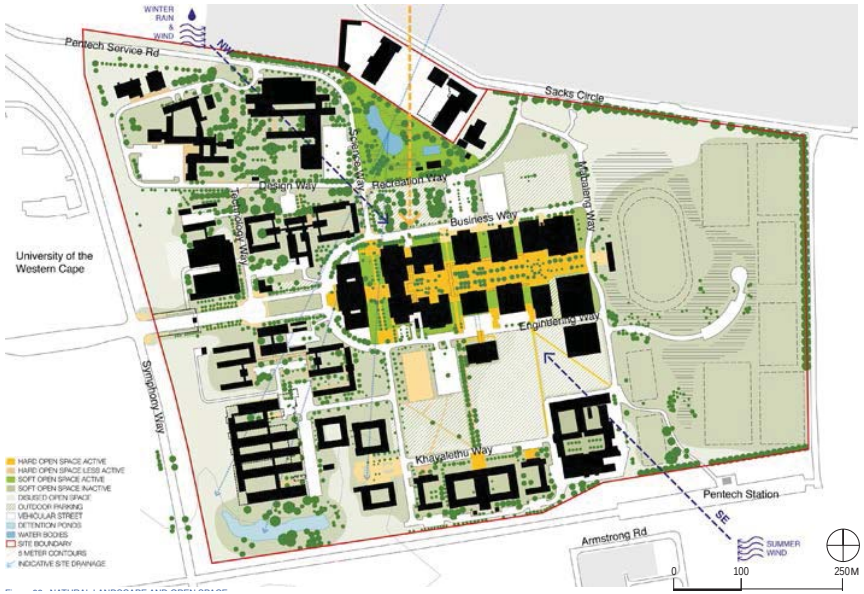


FIGURE. 40. LANDSCAPE AND CAMPUS SPACE

FIGURE. 41. LAND USE AND BUILDING HEIGHTS

- The dispersed, low-density built form of the campus does little to provide shelter from the elements for pedestrians; and
- The well utlised outdoor spaces, including the park/ pool pavilion and the central pedestrian plaza do not connect into a broader structure of public space and pedestrian circulation.

6.2.3. PUBLIC AMENITIES AND FACILITIES

The campus is a classic example of “lost space”, where everywhere is nowhere and the lack of spatial definition and enclosure result in a sense of alienation and disorientation. The scale of the buildings in relation to the expanse of space are too low to create any sense of enclosure or human scale.

The pedestrian plaza located in front of the student Union Building is the central campus social space, but it is difficult to locate, embedded amongst the core buildings of the campus. The spaces beyond this core and not integrated with the central space and are mostly used for parking. The outdoor park-like spaces on campuses which include a swimming pool and pavilion are well used, albeit unconnected to the broader campus structure of public spaces and pedestrian circulation.

The most public functions are located at the heart of the campuses are the central space. These include:

- The sports facilities;
- Auditorium;
- Student Centre; and
- Administration building.

6.2.4. LAND USE AND BUILT FORM

The campus is currently an island within its context and draws little from its surroundings. The scale of the buildings in relation to the expanse of open space are too low to create any sense of enclosure or human scale.

The western edge of the campus comprises largely single storey buildings, while the buildings in the core of the campus range between two and three storeys in height. The new residential blocks on the southern boundary are three and four storey buildings. While the four-storey limit was planned to establish a sense of consistency, the buildings are too dispersed to provide any sense of enclosure to the spaces between them.

High fences, inward-oriented, low, scattered buildings create a sense of imprisonment. There is no clue to its role as a dynamic place of innovation and learning.

The zoning scheme permits buildings of five storeys in height. Campus buildings are designed as pavilions in a landscape, and in some cases faculties are completely disconnected from each other.

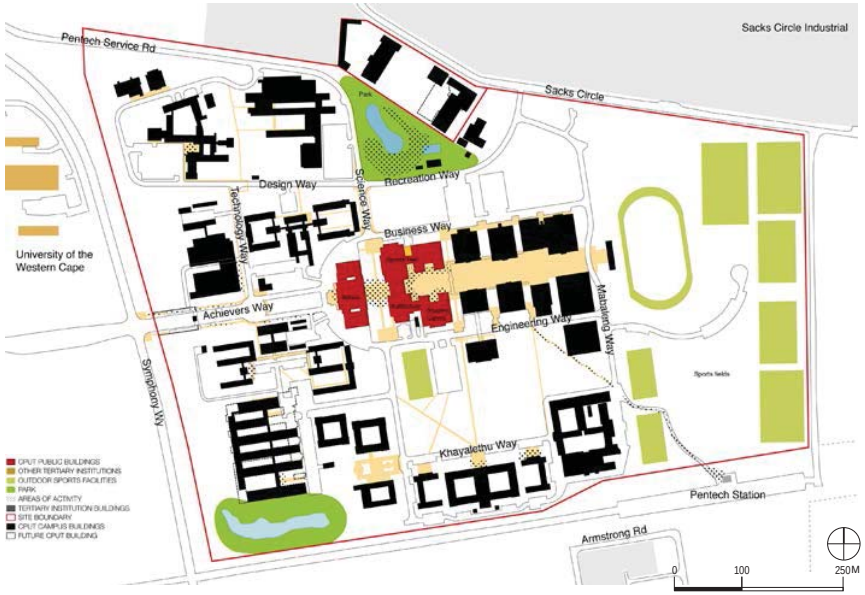


FIGURE. 42. PUBLIC FACILITIES AND BUILDINGS

FIGURE. 43. CAMPUS AND SURROUNDING AREA ZONING

6.3. ACCESSIBILITY

Figure. 43 illustrates the isolated nature of the campus. The campus has limited connectivity to its surroundings with a perimeter fence only allowing access at four points.

To the south, the railway line is a barrier to connectivity with the Belhar residences and Symphony Way operates as a mobility route and barrier to connectivity between the UWC and CPUT campuses.

6.3.1. PUBLIC TRANSPORT

A public bus route operates along Symphony Way with a stop outside the campus main entrance gate. Taxi routes also provide connection to the wider metropolitan area and there is planned Bus Rapid Transit access for the area.

The Pentech station provides rail access to the campus however, the station and the pedestrian link from the station are unsurveilled and often unsafe.

6.3.2. PRIVATE VEHICULAR ACCESS

The campus is well located in relation to the wider metropolitan region. It offers excellent vehicular connection to regional access systems including the N1, R300 and CPT international airport.

On site parking is currently available but not well managed and has taken over most of the campus open space.

6.3.3. PEDESTRIAN AND BICYCLE ACCESS

Pedestrian and bicycle access to the campus is poorly accommodated within the surrounding car-dominated environment. The main entrance gate which serves as both vehicle and pedestrian access is designed primarily for the car as it is over-scaled and unpleasant to the pedestrian.

PHOTO. 51. OPEN GROUND MAKE PROVISION FOR VAST AMOUNTS OF PARKING AND A DOMINANCE OF CARS

The campus is very large, taking 30-40 minutes to traverse on foot. Circulation within the campus is car dominated and the dispersed nature of the campus makes walking distances feel longer than they are.

The lack of pedestrian shelter exacerbates the hostility of the pedestrian experience.

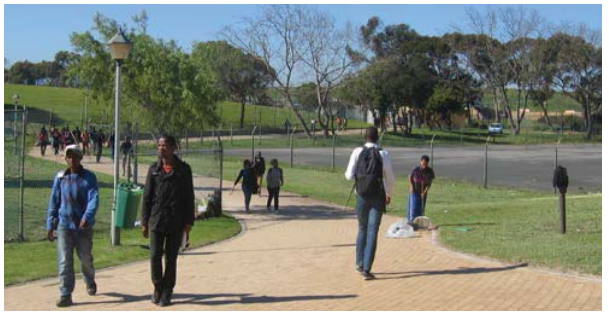


PHOTO. 52. UNSAFE PEDESTRIAN LINK TO PENTECH STATION

FIGURE. 44. ACCESS

6.4. IMPLICATIONS FOR DESIGN

The highlighted constraints and informants have implications for design. To achieve the CPUT vision, the masterplan should do the following:

- Create a strong sense of identity for the campus through new development;
- Rationalise and integrate the landscape system to create a cohesive green network on the campus;
- Prioritise pedestrian and bicycle movement on campus;
- Curtail and manage vehicular parking;
- Prioritise and increase public transport and NMT connections to the campus;
- Increase integration of railway station into the campus and improve safety of the connection;
- Integrate the campus with neighbouring Belhar suburb through development around the railway station;
- Challenge the current nature of Symphony Way to create a pedestrian, NMT and public transport orientated activity street;
- Promote integration between CPUT and UWC along Symphony Way; and
- Promote integration between the campus and its surroundings.

PHOTO. 53. WIDE OPEN VACANT LAND HOLDS OPPORTUNITY FOR INFILL AND TO IMPROVE SPATIAL DESIGN OF THE CAMPUS SO AS TO CREATE A PEDESTRIAN SCALED PUBLIC ENVIRONMENT TO CREATE ACTIVE AND VIBRANT CAMPUS SPACES

PHOTO. 54. RETAIN EXISTING ESTABLISHED TREES THAT PROVIDE SHELTER FROM THE ELEMENTS

PHOTO. 55. RETAIN EXISTING VALUABLE GREEN SPACES THAT ARE WELL USED

PHOTO. 57. PROMOTE INTEGRATION BETWEEN THE CAMPUS AND ITS SURROUNDS

PHOTO. 56. MOVE AWAY FROM A CAR DOMINANT CAMPUS

6.5. ELEMENTS OF THE BELLVILLE MASTERPLAN

6.5.1. ACCESS AND CIRCULATION

6.5.1.1 GENERAL ACCESS NETWORK

ESTABLISH CLEAR AND LEGIBLE MOVEMENT NETWORKS ON EACH CAMPUS AND LINK THIS INTO THE SURROUNDING CITY CONTEXT

UTILISE A GRID OF INTERCONNECTED STREETS TO GIVE CHOICE OF MOVEMENT: AN EQUITABLE STRUCTURE WHICH ENSURES DEVELOPMENT CERTAINTY OVER TIME

The two general proposals for access are to:

- Create a strong north-south link from the Sacks Circle gateway to Pentech Station and an east-west connection off Symphony Way and Mabaleng Way towards the heart of the campus along the Dome of Remembrance axis; and
- Improve accessibility and connect the campus to the city by creating a clear, integrating grid network of streets.

6.5.1.2 PEDESTRIAN ACCESS AND CIRCULATION

Figure. 44 summarises the six proposals for improving pedestrian access which are as follows:

1. Make strong and clear pedestrian routes to surrounding amenities including the Sacks Circle Industrial Area to the north, the future activity corridor and MyCiti route on Symphony Way, to UWC and to the Pentech Station.
2. Rationalise vehicular circulation routes so that these do not dominate the campus and give priority to pedestrian routes.

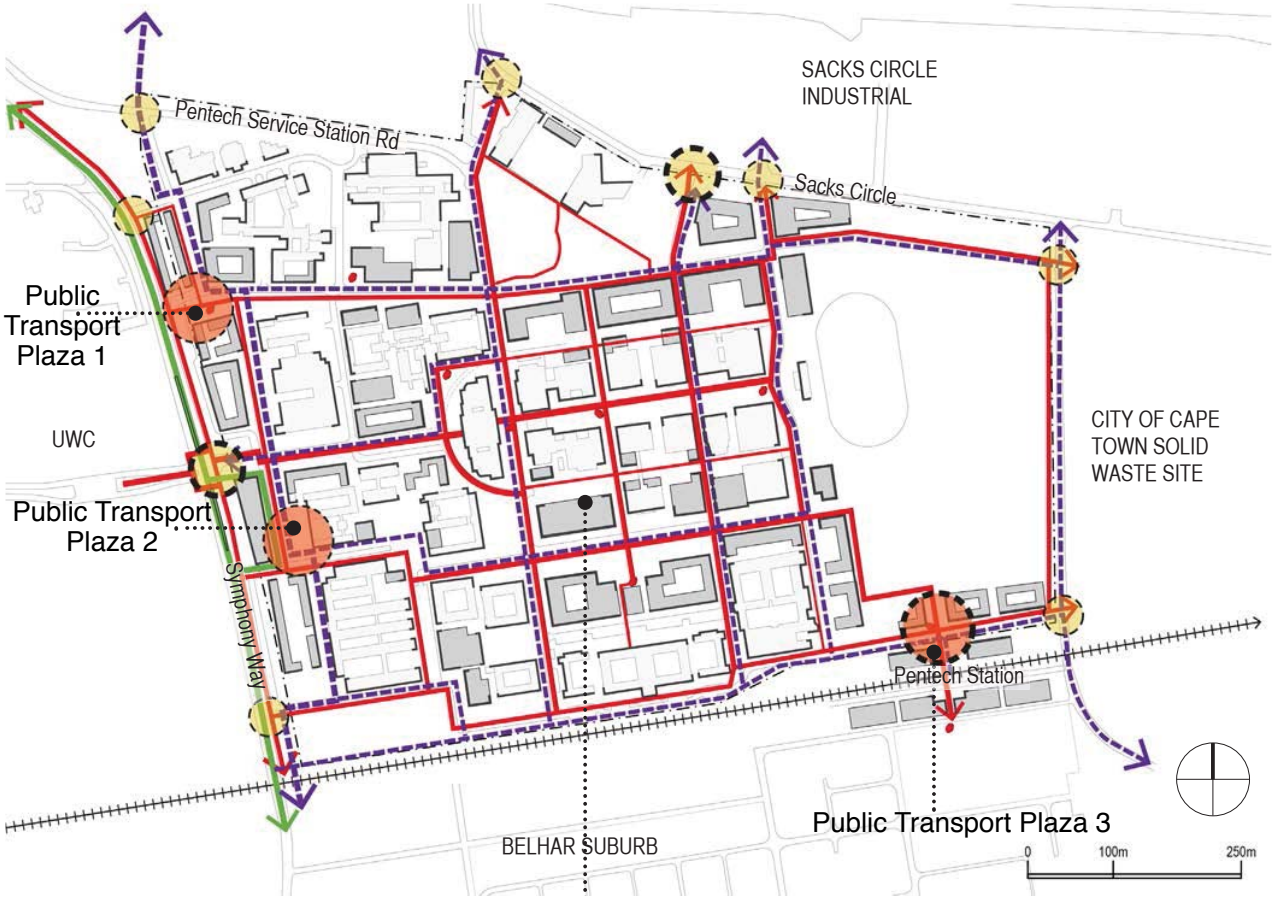


FIGURE. 45. BELLVILLE CAMPUS: PEDESTRIAN ACCESS AND PUBLIC TRANSPORT ROUTES

PHOTO. 58. EXISTING CENTRAL HEART TO BE EXPANDED

Transport & Pedestrian Diagram Legend

- Bicycle Movement
- Pedestrian Movement
- Public Transport
- Gateway
- Public Transport Gateways

3. Provide a secondary, more private mobility system between buildings within the academic core along Engineering and Business Way which serve to connect students and staff to faculties, amenities and social spaces.
4. Establish a network of clearly marked bicycle paths by connecting the on-campus bicycle network with NMT routes along Symphony Way.
5. Use new residences to improve the security of the the link from Pentech Station to the heart of campus.
6. Provide two public transport plazas along Symphony Way.

6.5.1.3 VEHICULAR ACCESS AND CIRCULATION

The main proposals for accommodating vehicular access on campus are:

- Increase the number of vehicular access points into the campus to reduce pressure on the currently limited access points;
- Provide public transport plazas accessed off a service route parallel to Symphony Way to reduce the need for private vehicles;
- Rationalise vehicular access onto the site and reduce on-site parking which is provided along internal streets and in landscaped parking courts along Education and Recreation Way; and
- Rationalise car parking into landscaped parking courts and on street parking to reduce the extensive “car park” feel of the campus.

PHOTO. 59. LOW WALLS AND TREE PLANTING DEFINE PARKING SPACE, CONSTANTIA ALPHEN

FIGURE. 46. BELLVILLE CAMPUS: VEHICULAR ACCESS AND MOVEMENT

Vehicular Access Diagram Legend

- Vehicular Movement
- Restricted Access
- Parking
- Gateway

PHOTO. 60. CREATE SAFE AND SECURE ROUTE BETWEEN THE STATION AND CAMPUS

6.5.2. CAMPUS SPACE NETWORK

ESTABLISH A NETWORK OF LINKED, HIGH QUALITY, AND SHARED OPEN SPACES PUBLIC AND PRIVATE OPEN SPACES

Figure. 46 illustrates how this design rationale is applied to the Bellville Campus. The main proposals are:

- Create an entrance gateway off Symphony and Recreation Way;
- Reinforce the existing central 'heart' space along the central axis along the Dome of Remembrance;
- Connect the heart to the campus to the surrounding context via secondary social spaces and streets at the intersection of Achievers and Symphony Way, along Sacks Circle and at Pentech Station;
- Respond to and integrate with future development frameworks and initiatives including the Framework for The University of the Western Cape and the Future Tyger initiative of the Greater Tygerberg Partnership; and
- Create a collegiate system of courtyards by providing quiet study spaces for students and keep them activated by placing building entrances opening into the spaces.

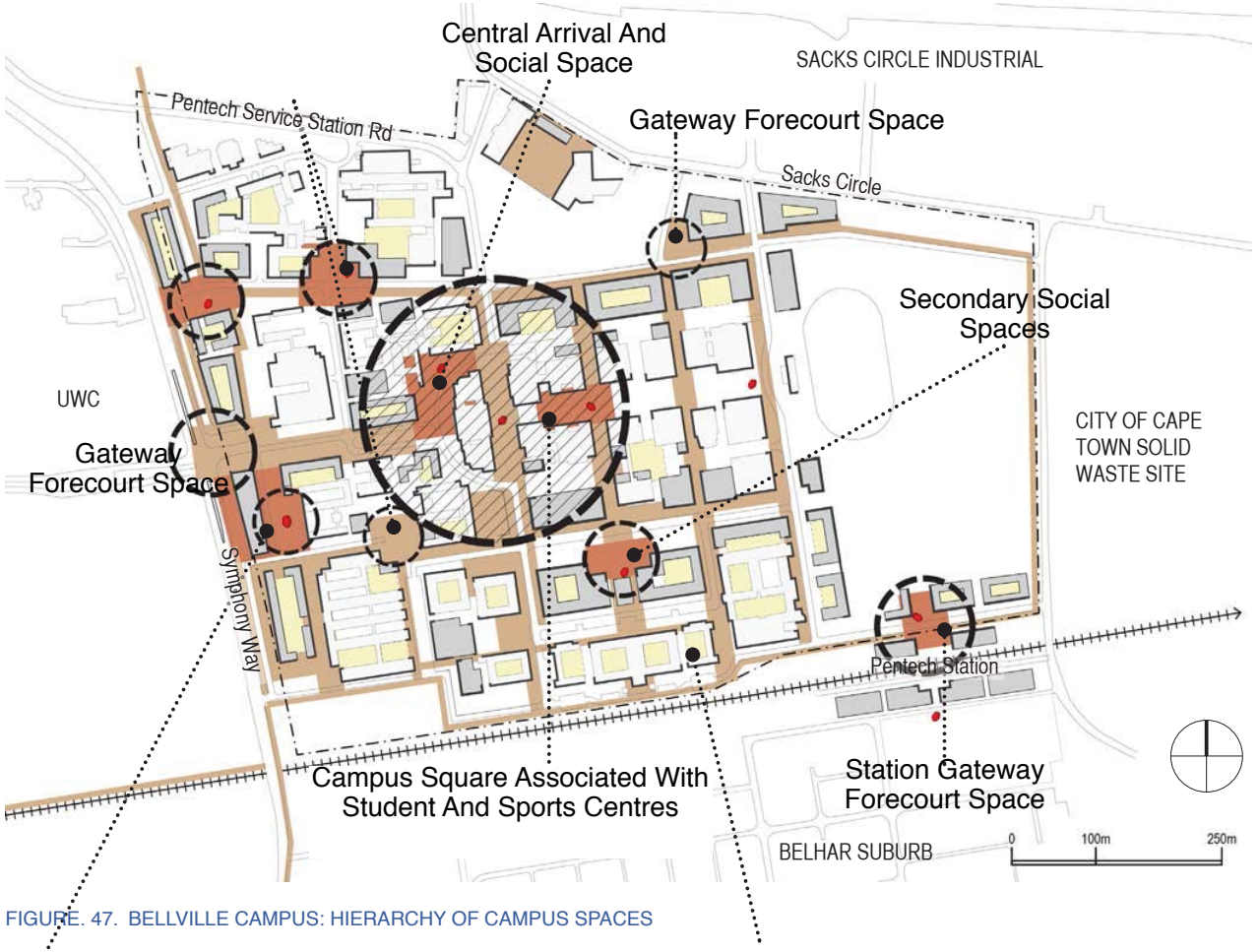


FIGURE. 47. BELLVILLE CAMPUS: HIERARCHY OF CAMPUS SPACES

Public Open Space Diagram Legend

- Public Open Space
- Key Public Open Space
- Courtyards

PHOTO. 61. ENCOURAGE ACTIVE GATEWAY SPACES, CREATING AN ACTIVE PUBLIC SPACE (MCGILL UNIVERSITY, CANADA)

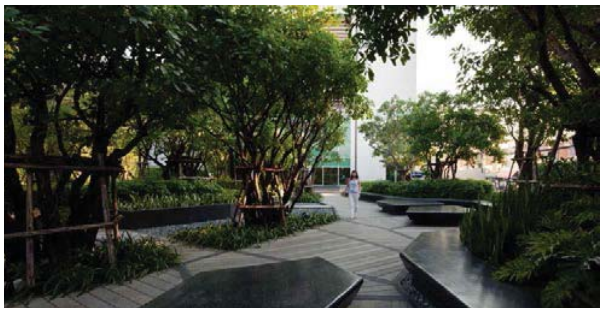


PHOTO. 62. QUIET CONTEMPLATIVE SPACES, (QUIET CITY COURTYARD - BANGKOK THAILAND, SHMA DESIGNS)

6.5.3. GREEN AND BLUE NETWORK

PROMOTE GREEN AND SUSTAINABLE CAMPUS DEVELOPMENTS

Figure. 47 illustrates how this design rationale is applied to the Bellville Campus. The main concepts are:

- Create continuous green linkages between the two existing parks along the natural drainage course running between the park in the north and the detention pond in the southwest;
- Retain the location of the sports fields in the east of the campus but connect them into the campus through green links along Recreation Way and the Education Way;
- Subsidiary green linking spaces created by avenues of trees that protect users from the rain and sun as well as serving as wind breaks to prevailing winds are found along Scenic Way, Mabaleng Way, Dome of Remembrance and Achievers Way; and
- New development on campus should utilise sustainable building methods and energy systems and can also serve to test new technologies and develop pilot projects for future implementation as a display of CPUT's expertise.

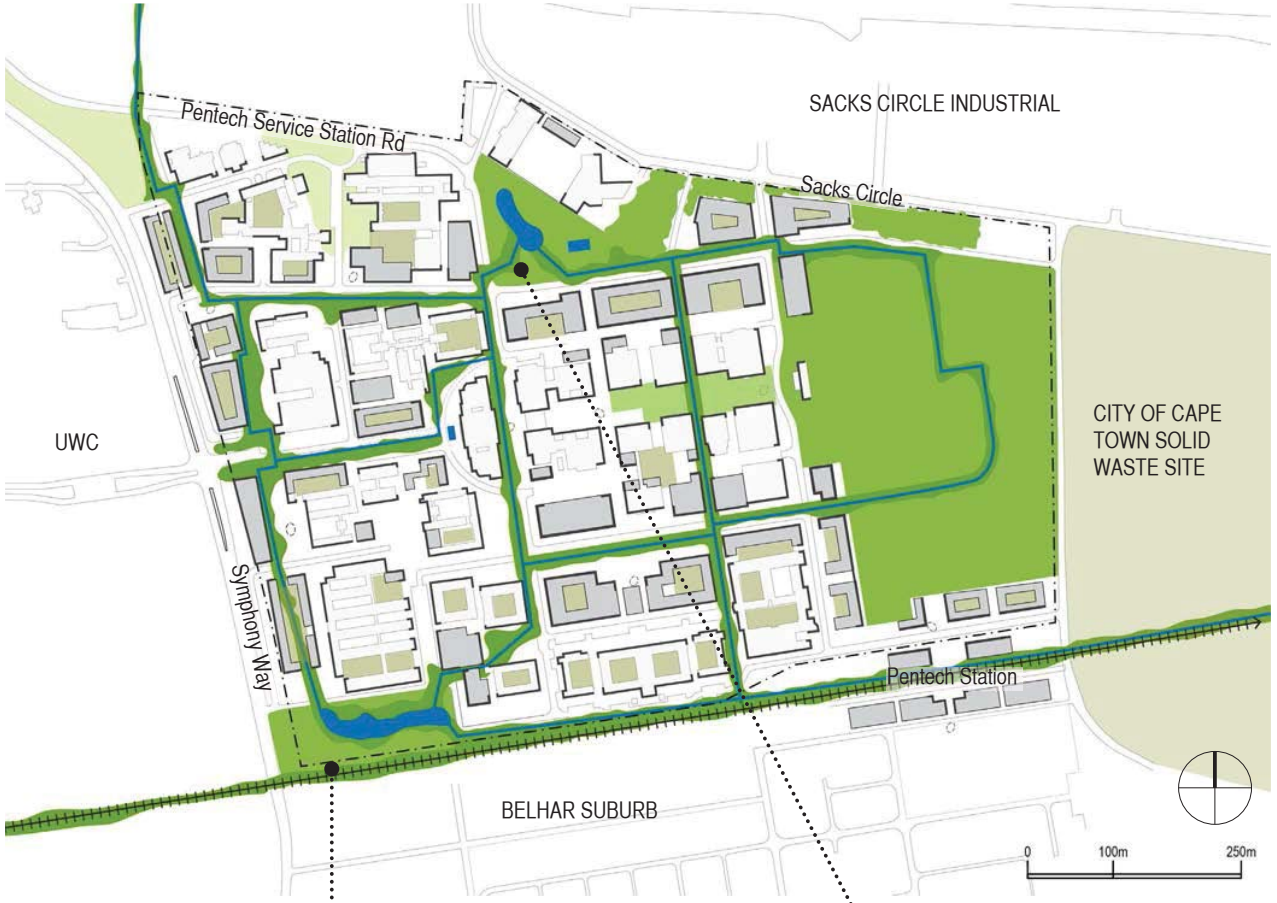


FIGURE. 48. BELLVILLE CAMPUS: GREEN AND BLUE NETWORK

Green and Blue Diagram Legend

- Open Space
- Green System
- Green Network
- Courtyards
- Water Systems

PHOTO. 63. EXISTING UNDERUTILISED PARK WITH DETENTION POND

PHOTO. 64. EXISTING WELL UTILIZED PARK WITH POOL AND PAVILION

6.5.4. VARIETY OF USES

PROMOTE A DIVERSE RANGE OF APPROPRIATELY LOCATED LAND USES ON CAMPUS

IMPROVE THE LIVELINESS OF THE CAMPUS AND MAKE IT MORE ATTRACTIVE AND EFFICIENT BY INTRODUCING A RANGE OF USES

INTEGRATE ACADEMIC AND PHYSICAL PLANNING TO "PUT EDUCATION ON DISPLAY"

The main proposals for the Bellville Campus regarding programming are to:

- Create a diverse, active and safe campus by assigning buildings different land-uses according to their location;
- Public uses (red in Figure. 48) are assigned to buildings around the central heart of the campus as well as along the edges of buildings around the major gateways along Symphony Way, Pentech Station and Sacks Circle;
- Opportunities to display academic work to the public occurs along Symphony Way at the intersection with Design and Achievers Way and at the Sacks Circle gateway;
- Academic facilities (brown) are consolidated to the north-west of the campus along Symphony Way and in the centre of the campus;
- New residences (yellow) are used to consolidate existing residences in the south of the campus and are to be located near the railway station and around the sports fields and connecting route into the campus to provided 24-hour surveillance to these otherwise deserted areas; and
- Introduce new uses along Symphony Way or at the Pentech Station that currently lacking on campus including entertainment and retail opportunities and temporary accommodation or hotel in order to create a more sustainable and vibrant campus, these uses should be located.

FIGURE. 49. BELLVILLE CAMPUS: VARIETY OF USES

PHOTO. 65. EXISTING GREEN HEART TO BE ENHANCED

PHOTO. 66. RESIDENTIAL USES TO OVERLOOK SPORTS FIELDS / PUBLIC SPACES CREATING A SAFE ENVIRONMENT (HAMMARBY SJOSTAD CANAL, STOCKHOLM)

Use Diagram Legend

- Residential
- Academic
- Social
- Mixed Activities
- isoPod
- Industrial
- Brownfield

6.5.5. PROPOSED BUILDING HEIGHTS

The building heights for proposed new development average at four storeys in height. This is in keeping with the concept of low rise, high density development intended for the Symphony Way access corridor, making optimum use of this important metropolitan public transport route and activity corridor.

The metro-southeast has also been identified by the City of Cape Town as one of two “Integration Zones” where public and private investment will be promoted to support urban and socio-economic integration. This strategy is driven by National Treasury and promotes the idea of optimising land use and increasing densities.

6.5.6. NEW DEVELOPMENT POTENTIAL

The new development footprints, at the heights noted above generate a total of 171 016 ASM.

Projected and planned space requirements for the Bellville campus are shown in Table.6 below. The development footprints are numbered in

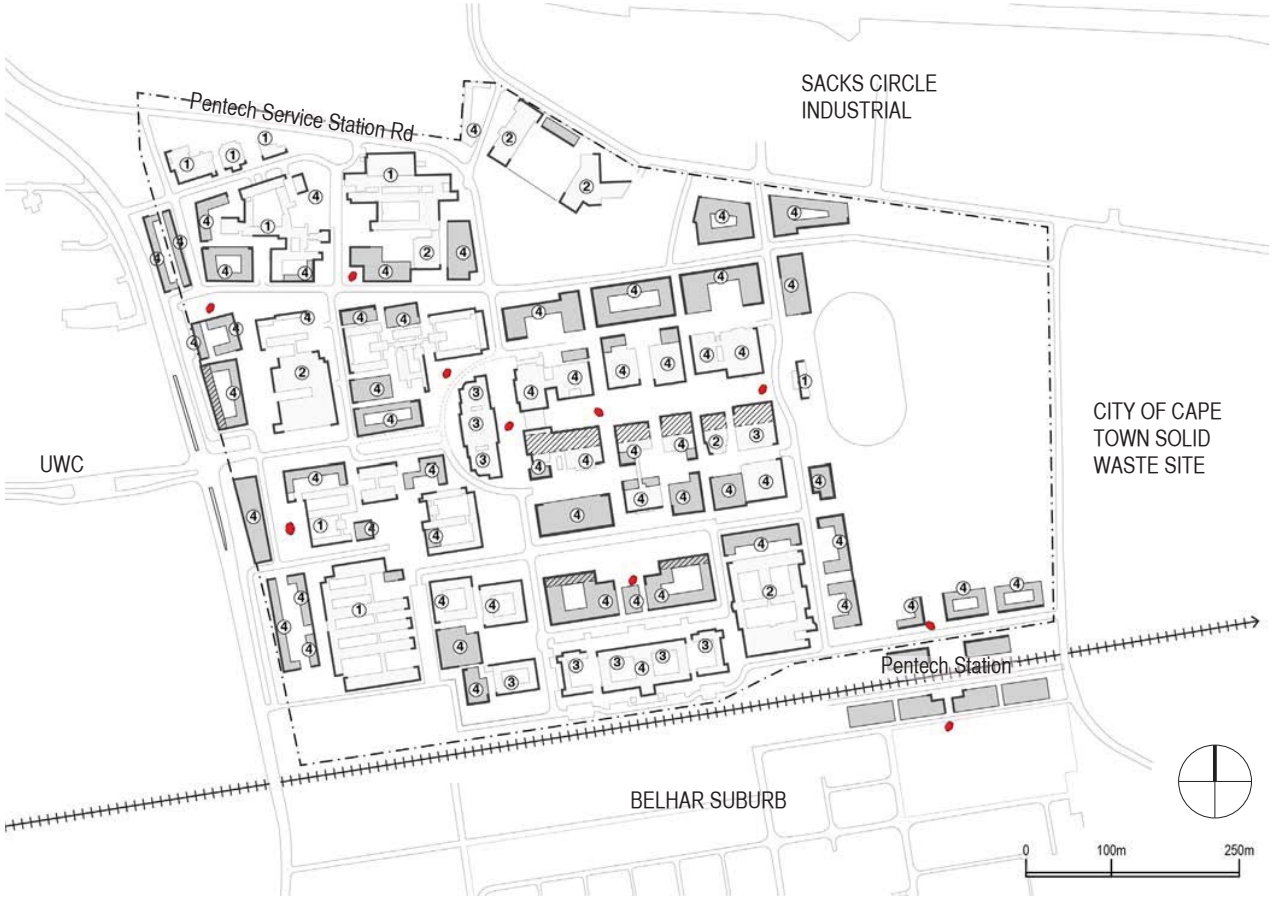


FIGURE. 50. BELLVILLE CAMPUS: HEIGHT IN STOREYS

Table.6 to accord with the location plan provided in Figure. 2848.

In summary the development yields are as follows:

	academic	residential	commercial	TOTAL
required	9 400	127 214	-	**136 614**
masterplan	36 860	127 897	6 259	**171 016**

TABLE.9. BELLVILLE CAMPUS: SPACE REQUIREMENTS

Development Diagram Legend

- New Proposed Buildings
- Existing Buildings

The Bellville campus has the most available, unencumbered land of all the campuses. A surplus of 34 402 ASM of development is accommodated in the master plan layouts. The majority of the surplus is allocated to academic uses: development potential that should be taken up when space is required to promote closer ties between the institution and surrounding business and industry.

The majority of planned and projected space is residential. The development of this residential requirement should be the catalyst that connects the campus to surrounding communities, making the campus part of the city, overcoming the spatial segregation that characterises the present day campus. The residential space is spread across the entire campus footprint and can accommodate roughly 8 525 students. This number is calculated by allocating 15 ASM per student and may alter depending on room sizes and students per room.

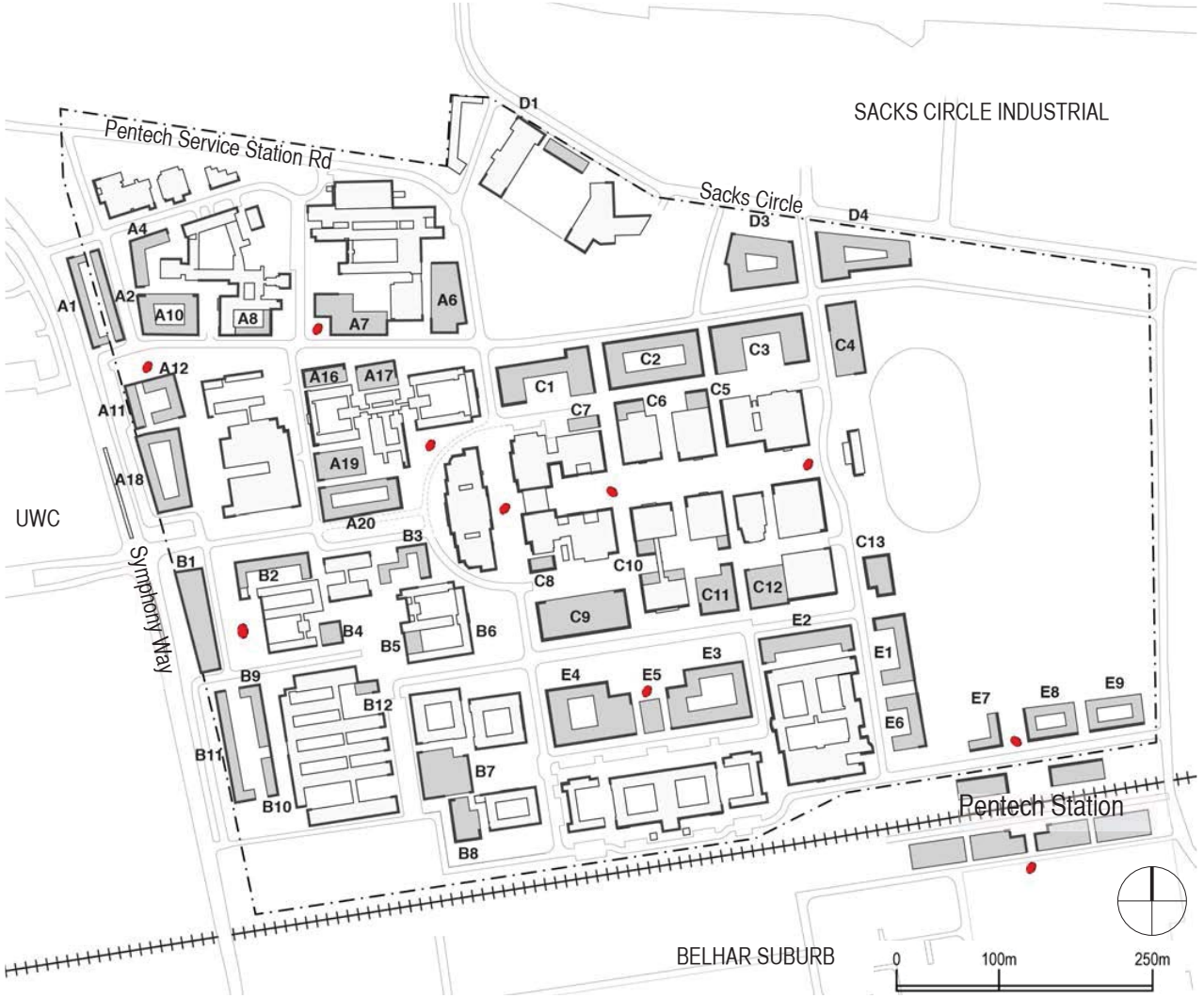


FIGURE. 51. BELLVILLE CAMPUS: KEY PLAN FOR PROPOSED DEVELOPMENT AREAS

Footprint Number	Area	Storeys	Total Bulk	Efficiency Factor	Usable Area	notes:
A1 - Ground	934	1	934	80%	747	commercial
		3	2 802	60%	1 681	residential
A2 - Ground	770	1	770	65%	501	social, academic
		3	2 310	60%	1 386	residential
A4-Split Ground	596	1	596	65%	387	social, academic
A4-Split Ground	293	1	293	60%	176	residential
	889	3	2 667	60%	1 600	residential
A6	2 011	4	8 044	60%	4 826	residential
A7	1 981	4	7 924	65%	5 151	academic
A8	459	4	1 836	65%	1 193	academic
A10-Split Ground	821	1	821	65%	534	social, academic
A10-Split Ground	847	1	847	60%	508	residential
	1 668	3	5 004	60%	3 002	residential
A11 - Ground	432	1	432	80%	346	commercial
		3	1 296	60%	778	residential
A12 - Ground	918	1	918	80%	734	commercial
		3	2 754	60%	1 652	residential
A16	772	4	3 088	60%	1 853	residential
A17	957	4	3 828	60%	2 297	residential
A18 - Ground	2 001	1	2 001	80%	1 601	commercial
		3	6 003	60%	3 602	residential
A19	1 260	4	5 040	60%	3 024	residential
A20	1 789	4	7 156	65%	4 651	academic
	18 148		67 364		**42 231**	

Footprint Number	Area	Storeys	Total Bulk	Efficiency Factor	Usable Area	notes:
B1 - Ground	2 322	1	2 322	80%	1 858	commercial
		3	6 966	60%	4 180	residential
B2 - Ground	1 011	1	1 011	65%	657	social, academic
		3	3 033	60%	1 820	residential
B3	833	4	3 332	60%	1 999	residential
B4	432	4	1 728	60%	1 037	residential
B5	345	4	1 380	60%	828	residential
B6	936	4	3 744	60%	2 246	residential
B7-Split Ground	496	1	496	65%	322	social, academic
B7-Split Ground	1 582	1	1 582	60%	949	residential
B7	2 078	3	6 234	60%	3 740	residential
B8	1 053	4	4 212	60%	2 527	residential
B9 - Ground	730	1	730	65%	475	academic
		3	2 190	60%	1 314	residential
B10 - Ground	382	1	382	65%	248	academic
		3	1 146	60%	688	residential
B11 - Ground	1 217	1	1 217	80%	974	commercial
		3	3 651	60%	2 191	residential
B12	257	1	257	65%	167	social, academic
	11 596		45 613		**28 219**	

TABLE.10. BELLVILLE CAMPUS: AREA AND BULK OF PROPOSED DEVELOPMENT

Footprint Number	Area	Storeys	Total Bulk	Efficiency Factor	Usable Area	notes:
C1	2 799	1	2 799	65%	1 819	academic
	2 799	3	8 397	60%	5 038	residential
C2 - Ground	3 348	1	3 348	65%	2 176	academic
		3	10 044	60%	6 026	residential
C3	3 292	4	13 168	60%	7 901	residential
C4	2 027	4	8 108	60%	4 865	residential
C5	376	4	1 504	65%	978	academic
C6	429	4	1 716	65%	1 115	academic
C7	372	4	1 488	65%	967	academic
C8	372	4	1 488	65%	967	academic
C9	3 475	4	13 900	60%	8 340	residential
C10	680	4	2 720	65%	1 768	academic
C11	1 725	4	6 900	65%	4 485	academic
C12	1 427	4	5 708	65%	3 710	academic
C13	1 021	1	1 021	65%	664	social, academic
		3	3 063	60%	1 838	residential
	24 142		85 372		**52 658**	

Footprint Number	Area	Storeys	Total Bulk	Efficiency Factor	Usable Area	notes:
D3 - Ground	2 635	1	2 635	65%	1 713	academic
		3	7 905	60%	4 743	residential
D4 - Ground	2 780	1	2 780	65%	1 807	academic
		3	8 340	60%	5 004	residential
	5 415		21 660		**13 267**	

Footprint Number	Area	Storeys	Total Bulk	Efficiency Factor	Usable Area	notes:
E1	1 395	4	5 580	60%	3 348	residential
E2	1 642	4	6 568	60%	3 941	residential
E3	2 896	4	11 584	60%	6 950	residential
E4	3 602	4	14 408	60%	8 645	residential
E5 - Ground	621	1	621	65%	404	social, academic
		3	1 863	60%	1 118	residential
E6	1 208	4	4 832	60%	2 899	residential
E7	591	4	2 364	60%	1 418	residential
E8	1 255	4	5 020	60%	3 012	residential
E9	1 211	4	4 844	60%	2 906	residential
	14 421		57 684		**34 641**	
totals	73 722		277 693		**171 016**	

	Total Bulk	Usable Area
Total Academic	58 749	**36 860**
Total Residential	213 162	**127 897**
Total Commercial	7 824	**6 259**
	279 735	**171 016**

6.5.7. CONSOLIDATED CAMPUS CONCEPT AND LONG-TERM CAMPUS MASTERPLAN

Figure. 51 illustrates the composite conceptual diagram for the Bellville Campus. The following key elements are highlighted:

- Create a strong identity to the campus through the creation of the central, linear space along the central axis;
- A secondary and tertiary network of spaces are created to provide variety of experiences as well as links between the heart of the campus and the the surrounding context;
- Structured, grid-like travel routes that connect into the surrounding context at gateway spaces along Symphony Way and Sacks Circle help to integrate the campus with the surrounding city;
- New residences are built clustered with existing ones to create a sense of community and feeling of safety for the students that live there. The residences along the route from Pentech;
- New development occupies vacant space and creates a more pedestrian dominant environment;
- Some parking is made available in the parking courts along Education and Recreational Way as well as along internal streets, but parking to the same extent is discouraged on site;
- The campus is made more permeable, helping to make education more accessible to all;
- Education is put on display in public orientated buildings located around gateway and public spaces; and
- Nature is pulled through the site by creating a structured green space that connects the two parks in the north and southwest of the campus.

The masterplan is illustrated in Figure. 52.

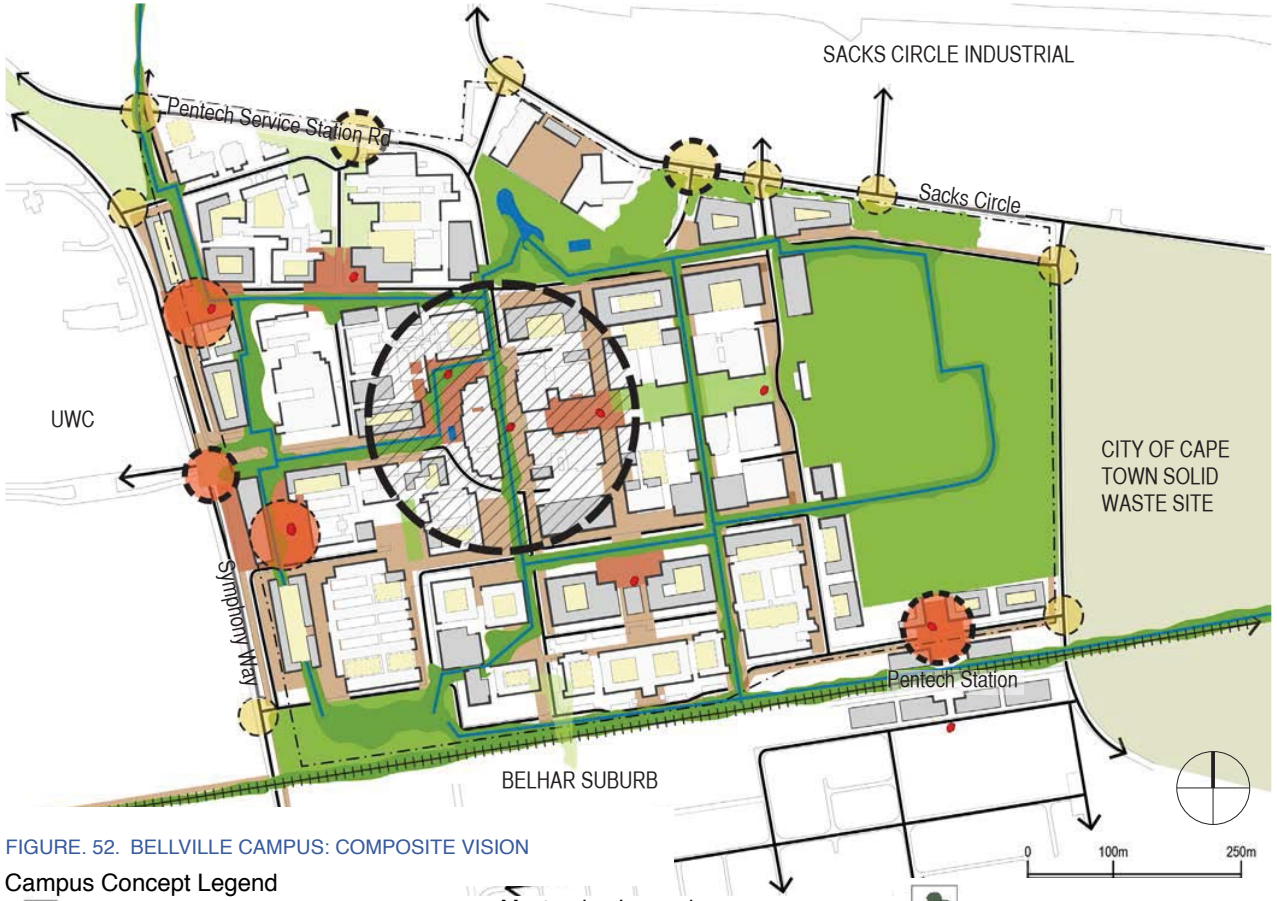


FIGURE. 52. BELLVILLE CAMPUS: COMPOSITE VISION

Campus Concept Legend

- New Proposed Buildings
- Existing Buildings
- Green Network
- Blue Network
- Key Public Open Space
- Public Open Space
- Gateway
- Public Transport Gateway
- isoPod
- Campus Heart

Masterplan Legend

- New Proposed Buildings
- Existing Buildings
- Colonnaded Edges / Roof Structure
- Active Edges
- Social Uses
- Mixed Uses
- Proposed isoPods
- Existing Trees
- New Trees
- Water / SUDs System
- Public Space
- Key Public Space
- Green / Open Space / Recreational Space
- Natural Planting
- Private Courtyards

FIGURE. 53. BELLVILLE CAMPUS: MASTERPLAN

6.6. THE CAMPUS WITHIN ITS CONTEXT

Through the implementation of the masterplan the Bellville Campus better integrates with UWC to the west, to Sack Circle industrial area to the north and to Belhar to the south. This is achieved both through new routes connecting into the campus street network as well as through the location of compatible uses along the interfaces of the campus. To the south this includes student residences along the edges of the campus adjacent to Belhar and pedestrian routes connecting from the Station into Belhar giving effect to the principle of outreach into the community.

To the north, this includes mixed-use facilities compatible with the interface with the Sacks Circle industrial area similar in intent to the SARATEC building. This edge provides the potential to put CPUT's innovation and education on display and offer opportunities for partnerships with industry.

The long-term vision is to see the campus as an integral part of the city rather than a "walled city" isolated from its context. This integration will need to be achieved in phases over time, as security circumstances and the context allows.

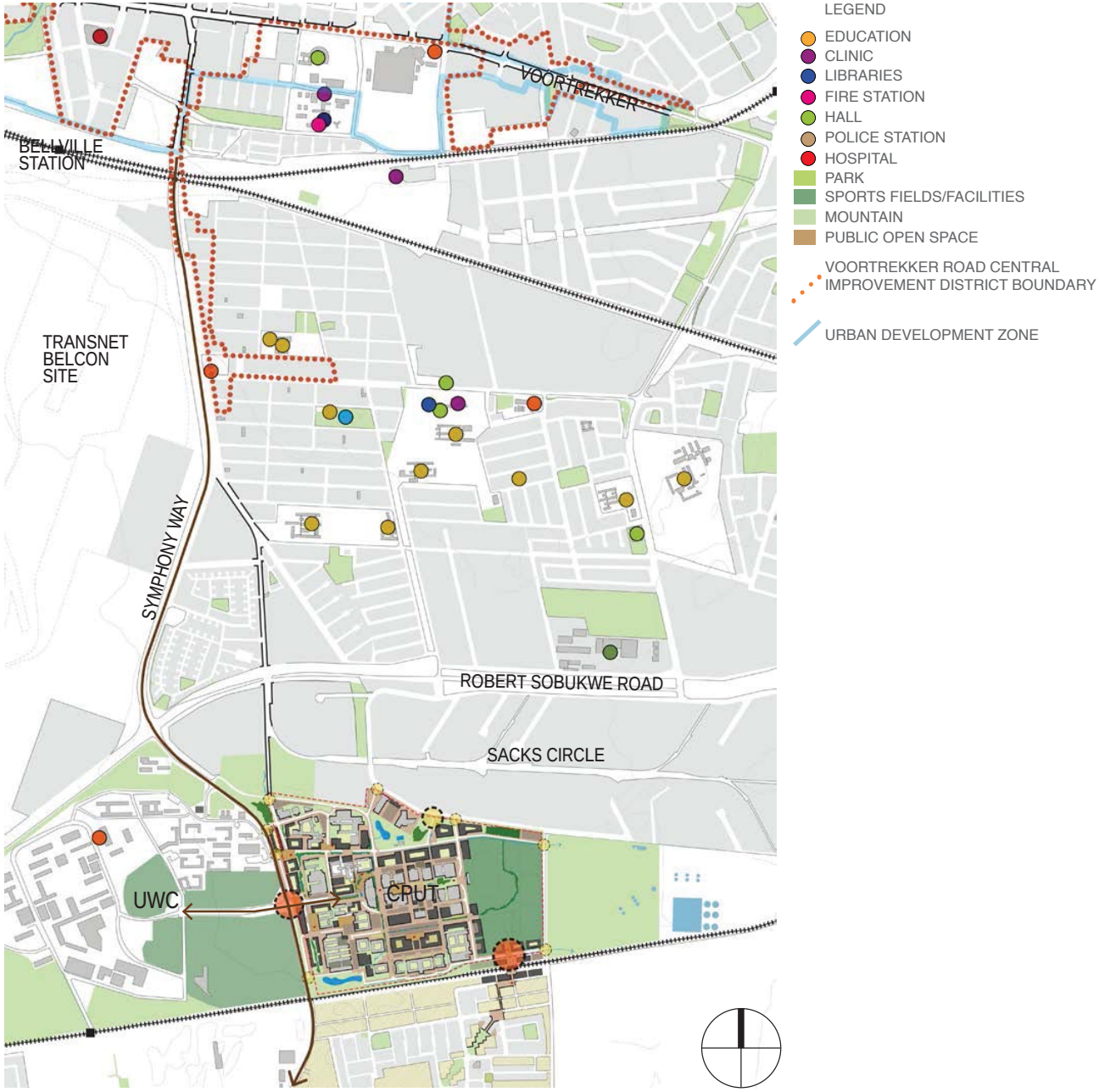


FIGURE. 54. BELLVILLE CAMPUS: THE CAMPUS WITHIN ITS CONTEXT

6.7. PHASING AND IMPLEMENTATION CONSIDERATIONS

This section relates to the phasing of development for the Bellville campus between 2015 and 2021. Priority focus projects have been chosen and divided into two phases running from 2015 - 2018 and 2019 - 2021. The resultant development is proposed as long term development. It is suggested that after 2021, CPUT should re-evaluate their priorities and establish the next development phases depending on the university's needs.

The following priority focus areas have been established from calculations between existing space and facilities and what will be required in 2030 for both residential, academic and social (support) uses. In the case of the Bellville campus, it is strongly evident that the priority focus should be on the provision of residential facilities.

It should be noted that priority focus areas have not only been chosen on need, but also in relation to the following issues:

- Location and role in terms of the overall masterplan e.g. the establishment of gateways or definition of public spaces or even the improvement of safety;
- Ease in which development can occur (e.g. a new build versus an addition to an existing building);
- Phasing in terms of providing space for existing buildings to be decanted into and then renovated.

6.7.1. PRIORITY FOCUS AREAS

6.7.1.1 PHASE 1: 2015 - 2018

PROVIDE ADDITIONAL STUDENT HOUSING WHILE CREATING A RESIDENTIAL HUB

The central proposals for the new residential hub are as follows:

- Build new residences on existing empty lots in the south of the campus;
- Build new residences on the edge of the sports fields so to provide surveillance over the fields and help to define their edges;
- 'Close down' space in between the station and the university with new residences. This helps to improve safety and security where the path between the station and the university is more active and surveilled;
- Create a student hub in the centre of the new residences where students can gather and socialise. This hub includes an isoPod as well as other social uses such as a student centre or canteen;
- Create a parking 'street' in front of the new residences. This area can be multi-functional, accommodating parking, or be used as a space to hold larger outdoor events;
- The parking street includes treed avenues as well as swales that mitigates storm water run off.

PHOTO. 70. STORM WATER SWALES INCORPORATED INTO THE PARKING STREET LANDSCAPE

PHOTO. 67. STUDENTS SOCIALISING IN FRONT OF THEIR RESIDENCE

PHOTO. 68. HEAVILY TREED MULTI-PURPOSE PARKING COURT

PHOTO. 69. RESIDENCES SURROUNDING SPORTS FIELDS PROVIDING SURVEILLANCE AND SPATIAL DEFINITION

FIGURE. 55. BELLVILLE CAMPUS: PHASING 2015 - 2021

6.7.1.2 PHASE 2: 2019 - 2021

PROVIDE ADDITIONAL STUDENT HOUSING THAT HELP TO DEFINE THE NEW NORTHERN GATEWAY AS WELL AS CONNECTING THE NORTHERN PARK TO THE CENTRAL CORE OF THE CAMPUS

The central proposals for phase 2 are as follows:

- Create new residences to the north of the campus central core;
- Create a connection between the northern park and the campus core;
- Establish a northern gateway into the campus from Sacks Circle with the use of mixed-use buildings. These entrance buildings can accommodate both residences and social facilities that relate to both students and the surrounding communities as well as academic space if needed;
- Included in the phase should be the landscaping and paving of public spaces surrounding the buildings;
- Create 'parking streets' which include extensive tree planting and storm water runoff channels in front of the new residences.

PHOTO. 71. ACTIVE, SURVEILLED PATHWAYS AND SPACES SUCH AS THE ROUTE BETWEEN THE STATION AND THE UNIVERSITY

6.7.2. IMPLEMENTATION CONSIDERATIONS

6.7.2.1 LANDSCAPE

The implementation of the landscape framework proposals will require detailed design strategies for the site. It is understood that these will probably be implemented in phases. To ensure that the landscape designs are cohesive and reflect the broader vision for the campus,

it is critical that a detailed landscape framework plan with design guidelines for the soft and hard landscaping elements is prepared for the campus, which will inform the precinct plans and detail designs. This detailed landscape framework should speak to the landscape approach for each CPUT campus so as to maintain a common language in design throughout the CPUT campuses.

The appointment of a landscape architect is recommended for the design and coordination of these landscape works. Details site anlaysis and base line information that will be required to prepare a detailed landscape framework plan include:

- An accurate site survey recording all site information i.e: levels, service positions, building locations, road layouts, tree positions and levels at base, etc .
- Cultural Landscape investigation, mapping and guidelines report;
- Existing Vegetation mapping and status report;
- Tree audits, recording the physical and heritage status of the trees;
- Mapping of Hydrological patterns and interpretation of the environmental legislation;
- Engineering audit of storm water system on the site and connections to broader city storm water system;
- Audit of existing hard landscaping elements on site in respect of typology and materials;
- Soils analysis based on engineers reports.

6.7.2.2 TRANSPORT

The following recommendations are made in relation to non-motorised transport, public transport and parking requirements for the Bellville Campus.

Non Motorised Transport:

The implementation considerations for NMT proposals are as follows:

- Create a strong north-south link from the Sacks Circle gateway to Pentech Station and an east-west connection off Symphony Way and Mabaleng Way towards the heart of the campus along the Dome of Remembrance axis;
- Make strong and clear pedestrian routes to surrounding amenities including the Sacks Circle Industrial Area to the north, the future activity corridor and MyCiti route on Symphony Way, to UWC and to the Pentech Station;
- Establish a network of clearly marked bicycle paths by connecting the on-campus bicycle network with NMT routes along Symphony Way;
- Use new residences to improve the security of the link from Pentech Station to the heart of campus;
- Provide two public transport plazas along Symphony Way;
- The promotion of active modes of transport should be encouraged by providing bicycle racks at buildings and showers in academic buildings.

Design principles for internal bicycle routes should include:

- Infrastructure integration with public transport stations to ensure that the transfer from walking and cycling to public transport is easy and universally accessible;
- Traffic management: give priority to cyclists and pedestrians on the internal roads. This should include a minimum speed limit for motorised transport of 40km/h;
- Enforcement by CPUT Traffic Services: protection of cyclists and pedestrians in case of accidents by providing visible enforcing of the traffic rules on campus. This should include the management of parking by checking that cars have valid parking discs as well as fines for speeding;
- The design of the routes should also include traffic calming measures for example chicanes, raised crosswalk, chokers, mini circles etc. The following image shows examples of how this can be done.
-

PHOTO. 72. SURFACING AND CURVING ROADS USED AS TRAFFIC CALMING MEASURES FOR PEDESTRIAN AND BICYCLE DOMINANT ROUTES.

Public Transport:

Existing Public Transport Access:

- The Bellville Campus has good existing Public Transport services with Minibus taxis stopping at the main access to campus on Symphony Road. The Golden Arrow bus services have stops on Sacks Circle;
- From observations, the rail services are used extensively to access the Bellville Campus with the Pentech Railway Station at the doorstep of the Campus.

Promoting Public Transport Use:

- Symphony Way is planned as a MyCiti trunk route in the 2032 IPTN plan. (CoCT: IPTN 2014);
- One coordinated MyCiti Stop for both CPUT and UWC should be encouraged so as to maximise the ridership on the MyCiti Routes;
- The MyCiti station design should be integrated with both of the facilities' main entrance gates to allow efficient pedestrian crossing facilities, entrance facilities and connection to other Public Transport (see Figure. 54) .
- At this stage the IPTN 2032 plan illustrates that Symphony Way is planned as a trunk route. It should however be kept in mind that the City will continually update the planning of the MyCiti services according to demand. The MyCiti Station on Symphony Way could also be designed as a kerb station which means it will be on the side of the road as opposed to a station in the middle of the road. The most important design element of the station will be for both Universities to consult with the Transport for Cape Town department to ensure that the needs of students are taken into account.
- The proposed upgrading of the Pentech Station link to Campus will greatly enhance the environment around the station and improve safety and security. The design should include provision for Bicycle facilities to ensure that students can connect from the train to the cycling lanes on campus.
- It is recommended that the CPUT Masterplan ensures that the internal pedestrian routes to buildings as well as the routes inside the buildings are universal accessible routes.

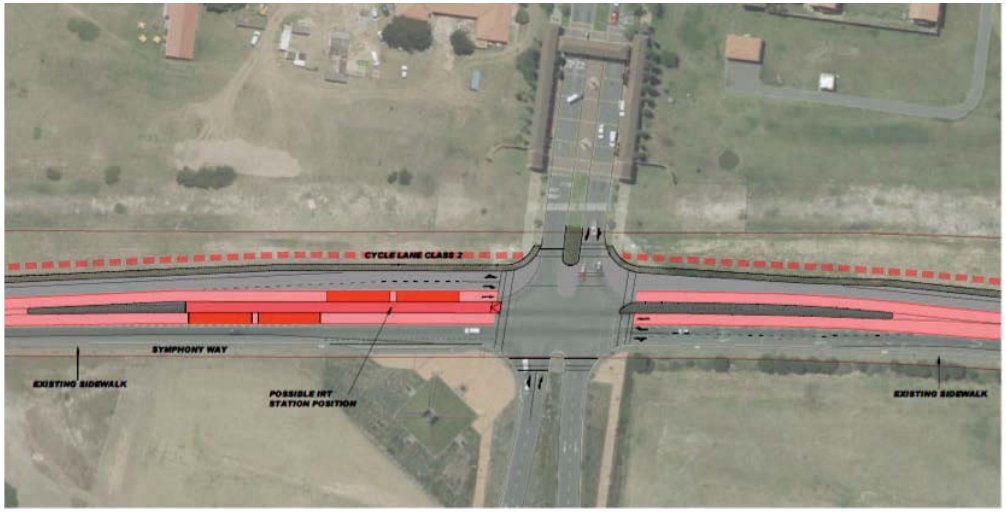


FIGURE. 56. IMAGE SHOWING CONCEPTUALLY HOW THE MYCITI STATION COULD LOOK ON SYMPHONY WAY AND THE ACCESSES TO BOTH UNIVERSITIES.

This in turn should connect with the universal accessible stops of the MyCiti and rail services;
- Advertising the available services in a more concise information brochure on the CPUT website can encourage the use of public transport;

Estimation of Public Transport Services for the Future Masterplan:
- Once the existing counts are done on Campus a modal split for the peak hour can be established which will assist with estimating the person trips to Campus;
- By using the existing modal split an estimation of the future public transport trips to Campus can be made;
- This will give an indication to the authorities of how many extra passengers will use the system to access the CPUT campus which in turn will provide valuable information to them regarding the design of extra services and frequencies.

Proposed Public Transport Plaza / Pods:

The design of the Public Pods as proposed by the Masterplan could enhance the connection of students to the future MyCiti Services. The pods, which are public spaces for students to meet, could include electronic screens indicating when the next bus will be arriving. By providing live updates of the services to Campus the students can enjoy maximum time with friends before getting on the bus. This will need coordination with the Transport for Cape Town Control Centre. The pods could also include a free Wi-Fi area to assist students planning their trips on their smart phones.

Parking Proposals:

The CPUT Bellville campus has good existing connections to public transport services. This together with the future plan to design Symphony Way as a trunk MyCiti bus route has encouraged the team to propose reduced parking ratios for this campus. Since the planned MyCiti service is only becoming operational around 2032, a phased parking strategy for the Bellville Campus has to be done. The following points explain the rationale:
- Due to the various public transport options that will ultimately be available within walking distance of the site there is an opportunity to encourage a significant shift to more sustainable transport modes. This can be done through the provision of infrastructure integration with public transport stations to ensure that the transfer from walking and cycling to public transport is easy and universally accessible;
- However, it is recognised that in the short term parking to the Bellville Campus cannot be reduced too much before a fully functioning BRT system is in operation together with the upgrading of the Rail services. A phased approach will therefore be required;
- The application of phased parking ratios over three horizon year periods in coordination with the three implementation phases is proposed.

A threefold approach is recommended to address the parking supply for the Bellville Campus (see Figure. 55):
- Reduce the overall parking provision and lower parking ratios in the long term. Only the long term ratio should be used to construct new parking on the campus since this is the ultimate vision and goal for the Campus;
- It is proposed to use 0,1 bays per bedroom (for residence) and 1 bay /100m2 for office space;
- In the medium term provide parking according to the PT2 ratio (CTZS, 2012). The overflow parking which is not part of the ultimate parking provision can be provided as off-site shared parking facilities. For example, at the Pentech Railway Station or a shared facility between UWC and CPUT. The overflow parking is to be utilised as shared parking i.e. where spaces are occupied by two or more separate groups of people regularly;
- The short term strategy includes providing parking on the open land on Campus which is not being developed during this phase.

Using the proposed reduced parking ratio the following parking space is required for the 2030 horizon year.

Campus	Student Residences (headcount)	Office Space (GLA m^2)	Bays Required 2030
Bellville	10 336 x 0,1 = 1034	17 628 x 1bay/100m2 = 176	**1210**

TABLE.4. REDUCED RATIO PARKING SPACES FOR 203

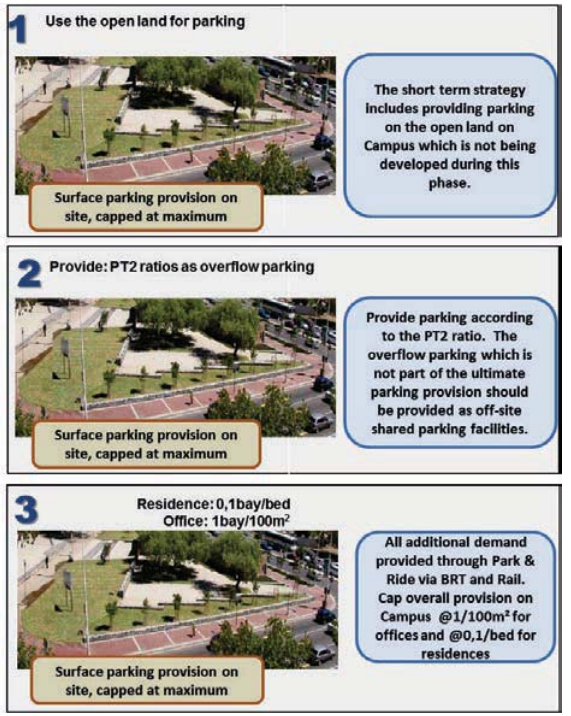


FIGURE. 57. PARKING STRATEGY FOR BELLVILLE CAMPUS

Vehicular access and circulation

Additional vehicular access points are proposed on Symphony Way road. Since this is planned as a trunk MyCiti road at this stage, the design of additional access points should be discussed with the City. Possible solutions could include left-in / left-out only accesses; splitting the private vehicle access from the planned Public Transport Stop; and only providing pedestrian & cycling access at the additional proposed access points. Distances between the accesses should also be checked, especially the proposed access on Sacks Circle.

6.7.2.3 INFRASTRUCTURE

The additional development of the campus, will result in an increase in hardened surface area across the campus, which would result in greater run-off and the requirement for additional retention storage. Although there is already a detention pond on the campus, additional land would traditionally be required to be set aside for the expansion of this pond. This is land that could be used for other purposes. It is thus advised that a Sustainable Urban Drainage System approach be used to manage the stormwater for the expansion of the Campus. Thus is a holistic approach to stormwater management that interfaces with the landscaping to maximise the opportunity for infiltration, improve the quality of stormwater leaving the site and closer mimic the natural stormwater systems. This will result in a more natural looking and attractive stormwater systems as well as reducing the need to additional detention storage.

The proposals will also result in associated additional students which will result in additional sewage generation. However, this is unlikely to pose a significant restriction on the expansion of the campus as the Bellville WWTW is very nearby and if additional pipe infrastructure is required, the pipe lengths will not be long. Bellville WWTW has recently been upgraded and there is space for further expansion in the future

6.7.2.4 HERITAGE

There are no implementation considerations from a heritage perspective. The Master Plan proposals are highly unlikely to trigger any legal requirements in terms of the NHRA.

6.7.2.5 ZONING

The sites that are affected by this masterplan are currently zoned CO2 and GI1. Both are recommended for rezoning due to use restrictions. CO2 needs to be rezoned to accommodate shops in the mixed use buildings. GI1 must be rezoned to accommodate academic and residential uses. A rezoning of both lots to GB3 would allow for the proposed uses and include most of the current uses allowed on CO2.

REFER TO CIV07

REFER TO CIV08

REFER TO CIV10

REFER TO CIV09

CUT LINE

CUT LINE

BIOANALYSIS AND TECHNICAL BIOLOGY

OXIDATION STRESS RESEARCH CENTRE

APPLIED SCIENCES BUILDING

OLD SCIENCE BUILDING

CHEMISTRY AND CHEMICAL ENGINEERING BUILDING

STORAGE LAKE

SWIMMING POOL

CHANGING ROOMS

RESERVOIR

SACKS CIRCLE INDUSTRIAL

SACKS CIRCLE

CADASTRAL BOUNDARY

EXISTING MUNICIPAL WATER SUPPLY LINE

SYMPHONY WAY

UWC ENTRANCE

MAIN ENTRANCE

TABEISA BUILDING, START-UP CAFE AND PRE-FAB BUILDINGS

RICHARD SACCO RESIDENCE

FOOD TECHNOLOGY BUILDING

FOOD TECHNOLOGY BUILDING

INFORMATION CENTRE

SUB-STATION NO. 2

ADMINISTRATION

AUDITORIUM

STUDENTS CENTRE

OLD LIBRARY

MAJOR SPORTS HALL

MINOR SPORTS HALL

CONSTRUCTION MANAGEMENT AND SURVEYING

IT CENTRE

CIVIL ENGINEERING BUILDING

SPORTS PAVILION

GOLDFIELDS BUILDING

GENCOR BUILDING

NEW ELECTRICAL ENGINEERING LABORATORY BLOCKS

LIBRARY EXTENSION

TENNIS COURT

TENNIS COURT

TENNIS COURT

KITCHEN BLOCK

OLD GARAGE BUILDING

MGR PARENTS HOUSE

MGR 1 - FEMALE RESIDENCE

MGR 2 - MALE RESIDENCE

SUB STATION NO.1

SEWER PUMP STATION

HEALTH AND WELLNESS BUILDING

HEALTH AND WELLNESS BUILDING

200 BED RESIDENCE

HEROES HOUSE RESIDENCE

CPUT 49-19 DESIGNATED CAMP SITE AREA

CPUT 46-19 DESIGNATED CAMP SITE AREA

POST GRAD RESIDENCE

ANGLO RESIDENCE

FREEDOM SQUARE RESIDENCE

DE BEERS RESIDENCE

MECHANICAL ENGINEERING BUILDING

EXISTING RETENTION POND

NEW RETENTION POND LAYOUT

BELHAR SUBURB

NEW WATERMAIN PIPE

EXISTING WATERMAIN PIPE

NEW FIRE MAIN PIPE

NEW FOUL SEWER PIPE

EXISTING MECHANICAL WATER

EXISTING FIREMAIN PIPE

EXISTING IRRIGATION PIPE

EXIST. VALVE CHAMBER

EXISTING WATER MAIN

EXIST. FIRE HYDRANT

NEW FIRE HYDRANT

NEW VALVE

NEW NON RETURN VALVE

NEW END CAP

NEW WATER METER

EXISTING MECHANICAL MANHOLE

NOTES

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LEGEND

WATERMAINS

ELEMENTS ON HOLD

DENOTES REVISION

AMENDMENTS

B	02.09.2020	ZR	SURVEY BENCHMARKS ADDED
A	11.08.2020	CA	FOR CONSTRUCTION

DESIGNED	DRAWN	CHECKED
ZR	ZR	JP Pr.Eng.

SURVEY CONTROL POINTS
M5L WGS84 L019

POINT	CO-ORDS Y	CO-ORDS X	LEVEL	DESCRIPTION
DN1	32 919.320	3 756 036.550	63.490	12mm IRON PEG
DN2	32 857.470	3 756 434.400	62.300	12mm IRON PEG
DN3	33 312.450	3 756 214.930	62.200	12mm IRON PEG
DN4	33 254.010	3 755 940.870	63.510	12mm IRON PEG
DN5	33 598.240	3 755 993.310	61.970	12mm IRON PEG
DN6	33 242.060	3 756 550.090	59.920	12mm IRON PEG
DN7	33 499.430	3 756 433.010	60.840	12mm IRON PEG

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

CPUT KEYPLAN

FOR CONSTRUCTION

KFD WILKINSON
CONSULTING ENGINEERS
12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
P.O. BOX 2074 CAPE TOWN 8000
TEL (021) 425-1610 · FAX (021) 425-1646 · E-MAIL: admin@kfdw.co.za

SCALE	DWG. NO.	REV
1:1000	B.614-2/CIV01	A

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4. THIS INFORMATION IS AVAILABLE IN MODEL MAKER OR ASCII FILES AND AUTOCAD OR DXF FORMAT.

LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER ROAD CATCHPIT
- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING NON RETURN VALVE
- EXISTING END CAP
- EXISTING WATER METER
- EXISTING MECHANICAL MANHOLE
- EXISTING WATERMAIN PIPE
- EXISTING IRRIGATION PIPE
- EXISTING MECHANICAL WATER

ELECTRICAL
- EXISTING ELECTRICAL DRAWBOX
- EXISTING DATA DRAWBOX
- NEW ELECTRICAL SLEEVES
- NEW DATA SLEEVES

OTHER
- EXISTING MANHOLE
- EXISTING LIGHT POST
- EXISTING TREE

fjc consulting
Town Planning & Land Surveying
Unit 16 Foregate Square Heerengracht Avenue,
Foreshore,
Cape Town,
8000
TEL: (021) 418-2995 CELL: 082 801 8761
EMAIL: MARK@GEOCAPE.CO.ZA

AMENDMENTS

A	11.08.20	ZR	FOR CONSTRUCTION

SURVEYED	DRAWN	CHECKED
FJC CONSULTING	ZR	JP Pr.Eng.

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

EXISTING SERVICES LAYOUT SHEET 1 OF 4

KFD WILKINSON
CONSULTING ENGINEERS
12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
P.O. BOX 3274 CAPE TOWN 8000
TEL (021) 425-1610 FAX (021) 425-1646 E-MAIL cpttmail@kfd.co.za

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CONTRACTORS REPRESENTATIVE ___/___/___ DATE

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CUT LINE
(SEE CIV02 PLAN ABOVE)

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SURVEY NOTES

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LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER ROAD CATCHPIT
- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING NON RETURN VALVE
- EXISTING END CAP
- EXISTING WATER METER
- EXISTING MECHANICAL MANHOLE
- EXISTING WATERMAIN PIPE
- EXISTING IRRIGATION PIPE
- EXISTING MECHANICAL WATER

ELECTRICAL
- EXISTING ELECTRICAL DRAWBOX
- EXISTING DATA DRAWBOX
- NEW ELECTRICAL SLEEVES
- NEW DATA SLEEVES

OTHER
- EXISTING MANHOLE
- EXISTING LIGHT POST
- EXISTING TREE

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CONTRACTORS REPRESENTATIVE ___/___/___ DATE

fjc consulting
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Unit 16 Foregate Square Heerengracht Avenue, Foreshore,
Cape Town,
8000
TEL: (021) 418-2995 CELL: 082 801 8761
EMAIL: MARK@GEOCAPE.CO.ZA

AMENDMENTS

A	11.08.20	ZR	FOR CONSTRUCTION

SURVEYED	DRAWN	CHECKED
FJC CONSULTING	ZR	JP Pr.Eng.

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

EXISTING SERVICES LAYOUT SHEET 4 OF 4

KFD WILKINSON
CONSULTING ENGINEERS
12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
P.O. BOX 3274 CAPE TOWN 8000
TEL (021) 425-1610 FAX (021) 425-1646 E-MAIL admin@kfdw.co.za

SCALE	DWG. NO.	REV
1:500	B.614-2/CIV05	A

NEW WATER MAIN SETTING OUT DATA		
POINT	CO-ORDS Y	X
WM01	33 276.766	3 755 910.473
WM02	33 305.763	3 755 887.606
WM03	33 318.086	3 755 877.888
WM04	33 396.546	3 755 866.226
WM05	33 438.351	3 755 877.654
WM06	33 496.678	3 755 895.604
WM07	33 546.443	3 755 910.919
WM08	33 544.279	3 755 917.95
WM09	33 566.681	3 755 917.147
WM10	33 566.622	3 755 949.397
WM11	33 566.598	3 755 973.644
WM12	33 510.072	3 755 973.644
WM13	33 510.071	3 756 012.557
WM14	33 510.071	3 756 029.249
WM15	33 486.989	3 756 028.977
WM16	33 444.977	3 756 028.977
WM17	33 444.977	3 756 042.079
WM18	33 443.600	3 756 051.128
WM19	33 375.413	3 756 040.745
WM20	33 365.775	3 756 039.277
WM21	33 332.731	3 756 039.277
WM22	33 318.878	3 756 039.277
WM23	33 284.312	3 756 039.277
WM24	33 264.972	3 756 039.277
WM25	33 257.436	3 756 038.129
WM26	33 275.166	3 755 920.981
WM27	33 275.731	3 755 917.273
WM28	33 436.562	3 755 883.468
WM29	33 436.184	3 755 919.176
WM30	33 417.179	3 755 919.111
WM31	33 435.961	3 755 985.119
WM32	33 435.813	3 756 028.977
WM33	33 441.58	3 756 064.388
WM34	33 439.272	3 756 079.546
WM35	33 514.267	3 756 090.966
WM36	33 505.203	3 756 150.787
WM37	33 505.923	3 756 174.174
WM38	33 502.008	3 756 199.728
WM39	33 501.566	3 756 202.616
WM40	33 422.133	3 756 191.978
WM41	33 430.155	3 756 139.419
WM42	33 433.95	3 756 114.496
WM43	33 389.802	3 756 109.235
WM44	33 393.165	3 756 087.493
WM45	33 368.345	3 756 083.603
WM46	33 370.874	3 756 068.271
WM47	33 329.33	3 756 077.169
WM48	33 332.731	3 756 056.55
WM49	33 325.05	3 756 076.463
WM50	33 323.306	3 756 087.741
WM51	33 299.395	3 756 072.233
WM52	33 296.797	3 756 089.033
WM53	33 269.598	3 756 084.827
WM54	33 255.602	3 756 049.459
WM55	33 247.455	3 756 103.106
WM56	33 240.804	3 756 146.895
WM57	33 240.352	3 756 149.883
WM58	33 296.363	3 756 179.565
WM59	33 292.85	3 756 202.579
WM60	33 312.479	3 756 205.574
WM60	33 312.479	3 756 205.574
WM61	33 317.681	3 756 206.368
WM62	33 319.562	3 756159.106
WM63	33 574.916	3 755 908.573
WM64	33 540.345	3 755 897.934
WM65	33 524.144	3 755 892.948
WM66	33 526.348	3 755 886.539
WM177		

NEW FIRE MAIN SETTING OUT DATA		
POINT	CO-ORDS Y	X
FM04	33 027.603	3 756 079.379
FM05	32 911.543	3 756 061.688
FM07	33 184.700	3 756 103.323
FM08	33 223.548	3 756 109.264
FM09	32 891.214	3 756 216.005
FM10	32 889.814	3 756 225.713
FM11	32 927.498	3 756 231.463
FM12	32 965.680	3 756 237.289
FM13	32 988.358	3 756 244.359
FM14	33 024.468	3 756 249.864
FM15	33 071.056	3 756 256.965
FM16	33 140.532	3 756 267.556
FM17	33 198.694	3 756 276.421
FM18	33 228.926	3 756 281.03
FM19	33 291.300	3 756 228.312
FM20	33 299.240	3 756 173.936
FM21	33 270.936	3 756 116.471

NOTES

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LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER ROAD CATCHPIT
- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- NEW FOUL SEWER PIPE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- NEW FIRE HYDRANT
- NEW VALVE
- NEW NON RETURN VALVE
- NEW END CAP
- NEW WATER METER
- EXISTING MECHANICAL MANHOLE
- NEW WATERMAIN PIPE
- NEW FIREMAIN PIPE
- EXISTING MECHANICAL WATER
- EXISTING WATERMAIN PIPE
- EXISTING FIREMAIN PIPE
- EXISTING IRRIGATION PIPE

ELECTRICAL
- EXISTING ELECTRICAL DRAWBOX
- EXISTING DATA DRAWBOX
- EXISTING ELECTRICAL SLEEVES
- EXISTING DATA SLEEVES

ELEMENTS ON HOLD

DENOTES REVISION

AMENDMENTS

A	11.08.2020	CA	FOR CONSTRUCTION

DESIGNED	DRAWN	CHECKED
JB	JB	JP Pr.Eng.

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

NEW SERVICES LAYOUT SHEET 1 OF 4

KFD WILKINSON CONSULTING ENGINEERS
12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
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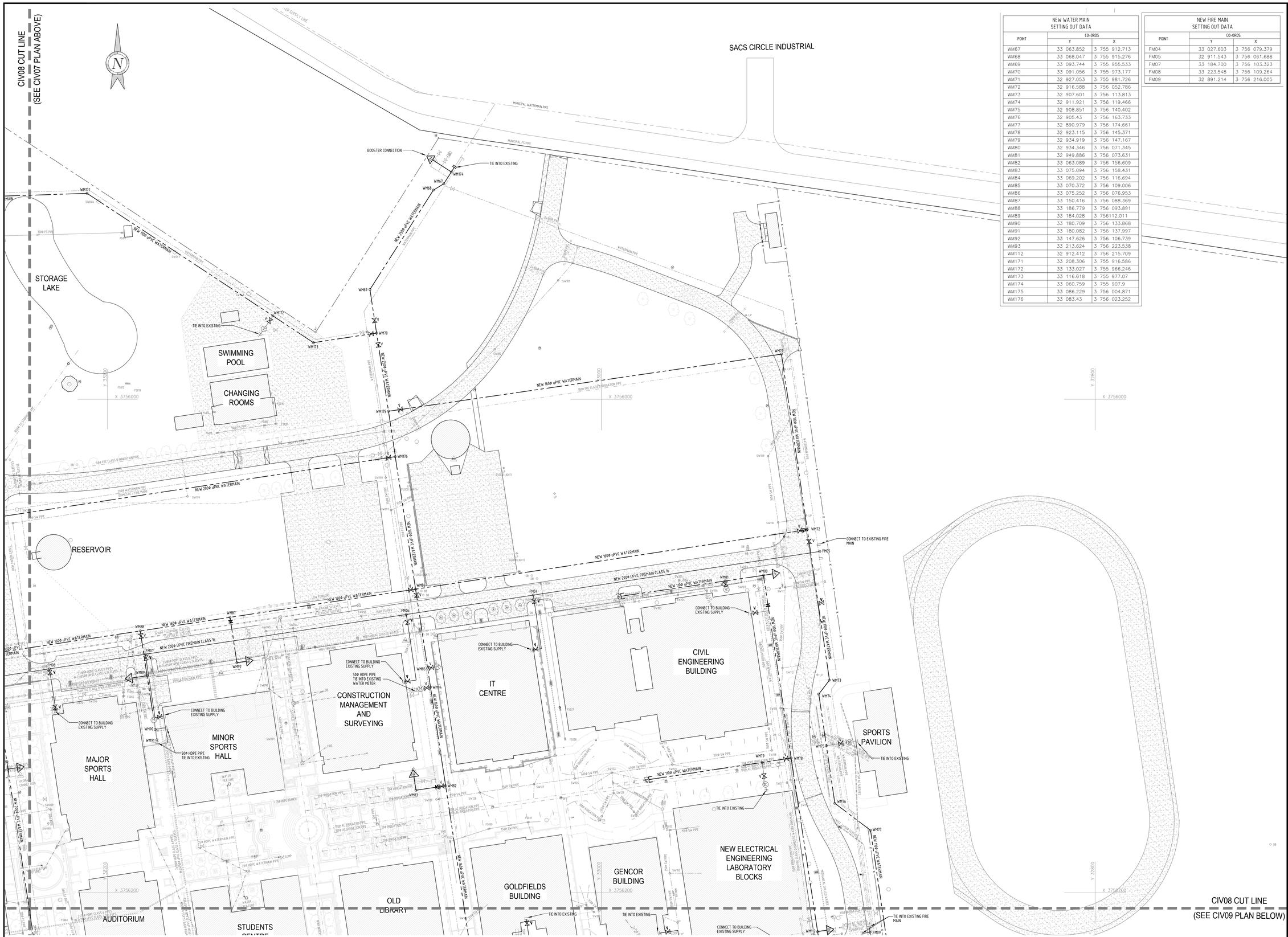
TEL (021) 405-1610 - FAX (021) 405-1646 - E-MAIL cdmin@kfdw.co.za

SCALE	DWG. NO.	REV
1:500	B.614-2/CIV07	A

FOR CONSTRUCTION | ORIGINAL SIZE A0



NEW WATER MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
WM67	33 063.852	3 755 912.713
WM68	33 068.047	3 755 915.276
WM69	33 093.744	3 755 955.533
WM70	33 091.056	3 755 973.177
WM71	32 927.053	3 755 981.726
WM72	32 916.588	3 756 052.786
WM73	32 907.601	3 756 113.813
WM74	32 911.921	3 756 119.466
WM75	32 908.851	3 756 140.402
WM76	32 905.43	3 756 163.733
WM77	32 890.979	3 756 174.661
WM78	32 923.115	3 756 145.371
WM79	32 934.919	3 756 147.167
WM80	32 934.346	3 756 071.345
WM81	32 949.886	3 756 073.631
WM82	33 063.089	3 756 156.609
WM83	33 075.094	3 756 158.431
WM84	33 069.202	3 756 116.694
WM85	33 070.372	3 756 109.006
WM86	33 075.252	3 756 076.953
WM87	33 150.416	3 756 088.369
WM88	33 186.779	3 756 093.891
WM89	33 184.028	3 756112.011
WM90	33 180.709	3 756 133.868
WM91	33 180.082	3 756 137.997
WM92	33 147.626	3 756 106.739
WM93	33 213.624	3 756 223.538
WM112	32 912.412	3 756 215.709
WM171	33 208.306	3 755 916.586
WM172	33 133.027	3 755 966.246
WM173	33 116.618	3 755 977.07
WM174	33 060.759	3 755 907.9
WM175	33 086.229	3 756 004.871
WM176	33 083.43	3 756 023.252

NEW FIRE MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
FM04	33 027.603	3 756 079.379
FM05	32 911.543	3 756 061.688
FM07	33 184.700	3 756 103.323
FM08	33 223.548	3 756 109.264
FM09	32 891.214	3 756 216.005

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LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER ROAD CATCHPIT
- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- NEW FOUL SEWER PIPE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- NEW FIRE HYDRANT
- NEW VALVE
- NEW NON RETURN VALVE
- NEW END CAP
- NEW WATER METER
- EXISTING MECHANICAL MANHOLE
- NEW WATERMAIN PIPE
- NEW FIREMAIN PIPE
- EXISTING MECHANICAL WATER
- EXISTING WATERMAIN PIPE
- EXISTING FIREMAIN PIPE
- EXISTING IRRIGATION PIPE

ELECTRICAL
- EXISTING ELECTRICAL DRAWBOX
- EXISTING DATA DRAWBOX
- EXISTING ELECTRICAL SLEEVES
- EXISTING DATA SLEEVES

ELEMENTS ON HOLD

DENOTES REVISION

AMENDMENTS

A	11.08.2020	CA	FOR CONSTRUCTION

DESIGNED	DRAWN	CHECKED
JP	JB	JP Pr.Eng.

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

NEW SERVICES LAYOUT SHEET 2 OF 4

KFD WILKINSON
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12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
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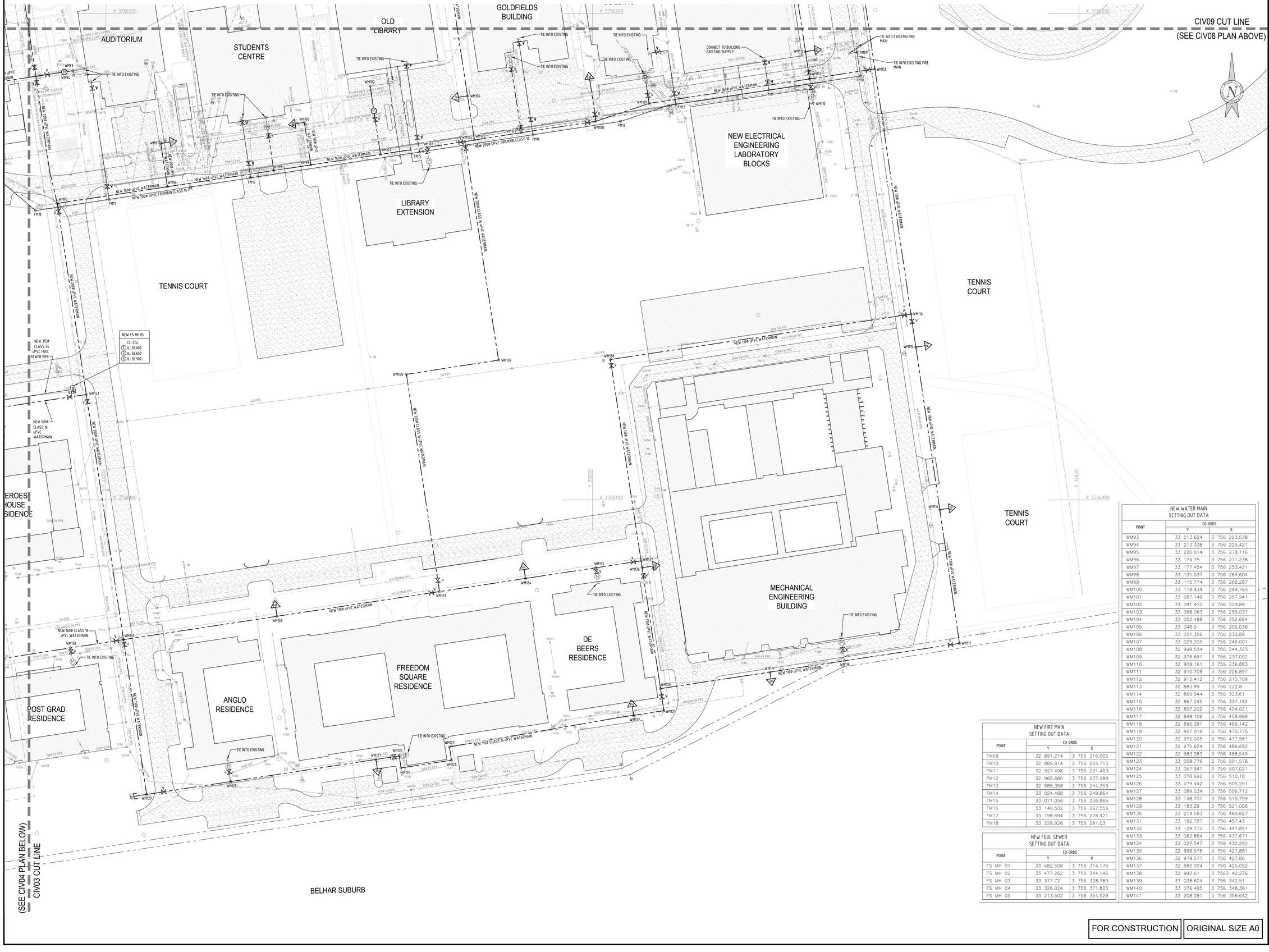
TEL (021) 425-7410 · FAX (021) 425-1646 · E-MAIL cpt@KFDW.co.za

SCALE	DWG. NO.	REV
SCALE	B.614-2/CIV08	A

FOR CONSTRUCTION | ORIGINAL SIZE A0



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LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
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- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- NEW FOUL SEWER PIPE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- NEW FIRE HYDRANT
- NEW VALVE
- NEW NON RETURN VALVE
- NEW END CAP
- NEW WATER METER
- EXISTING MECHANICAL MANHOLE
- NEW WATERMAIN PIPE
- NEW FIREMAIN PIPE
- EXISTING MECHANICAL WATER
- EXISTING WATERMAIN PIPE
- EXISTING FIREMAIN PIPE
- EXISTING IRRIGATION PIPE

ELECTRICAL
- EXISTING ELECTRICAL DRAWBOX
- EXISTING DATA DRAWBOX
- EXISTING ELECTRICAL SLEEVES
- EXISTING DATA SLEEVES

ELEMENTS ON HOLD

DENOTES REVISION

AMENDMENTS

A	11.08.2020	CA	FOR CONSTRUCTION

DESIGNED	DRAWN	CHECKED
JP	JB	JP Pr.Eng.

NEW WATER MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
WM93	33 213.624	3 756 223.538
WM94	33 213.338	3 756 225.421
WM95	33 220.014	3 756 278.116
WM96	33 174.75	3 756 271.238
WM97	33 177.454	3 756 253.421
WM98	33 131.037	3 756 264.604
WM99	33 115.774	3 756 262.287
WM100	33 118.434	3 756 244.765
WM101	33 087.149	3 756 257.941
WM102	33 091.402	3 756 229.88
WM103	33 068.063	3 756 255.037
WM104	33 052.488	3 756 252.664
WM105	33 048.5	3 756 252.036
WM106	33 051.356	3 756 233.88
WM107	33 029.205	3 756 249.001
WM108	32 998.534	3 756 244.323
WM109	32 976.691	3 756 237.002
WM110	32 909.161	3 756 236.883
WM111	32 910.709	3 756 226.897
WM112	32 912.412	3 756 215.709
WM113	32 883.89	3 756 222.8
WM114	32 869.044	3 756 323.61
WM115	32 867.045	3 756 337.182
WM116	32 857.202	3 756 404.021
WM117	32 849.106	3 756 458.989
WM118	32 896.391	3 756 466.142
WM119	32 927.019	3 756 470.775
WM120	32 972.005	3 756 477.581
WM121	32 970.624	3 756 486.652
WM122	32 983.083	3 756 488.549
WM123	33 058.776	3 756 501.578
WM124	33 057.947	3 756 507.021
WM125	33 078.692	3 756 510.18
WM126	33 079.442	3 756 505.251
WM127	33 089.034	3 756 506.712
WM128	33 148.701	3 756 515.799
WM129	33 183.29	3 756 521.066
WM130	33 214.583	3 756 460.827
WM131	33 192.787	3 756 457.43
WM132	33 129.712	3 756 447.851
WM133	33 062.864	3 756 437.671
WM134	33 027.547	3 756 432.292
WM135	32 998.578	3 756 427.881
WM136	32 979.577	3 756 427.86
WM137	32 980.004	3 756 425.052
WM138	32 992.61	3 7563 42.276
WM139	33 038.604	3 756 342.51
WM140	33 076.465	3 756 348.361
WM141	33 208.091	3 756 356.642

NEW FIRE MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
FM09	32 891.214	3 756 216.005
FM10	32 889.814	3 756 225.713
FM11	32 927.498	3 756 231.463
FM12	32 965.680	3 756 237.289
FM13	32 988.358	3 756 244.359
FM14	33 024.468	3 756 249.864
FM15	33 071.056	3 756 256.965
FM16	33 140.532	3 756 267.556
FM17	33 198.694	3 756 276.421
FM18	33 228.926	3 756 281.03

NEW FOUL SEWER SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
FS MH 01	33 482.508	3 756 314.176
FS MH 02	33 477.262	3 756 344.146
FS MH 03	33 377.72	3 756 328.789
FS MH 04	33 326.024	3 756 371.825
FS MH 05	33 213.502	3 756 354.529

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

NEW SERVICES LAYOUT SHEET 3 OF 4

KFD WILKINSON CONSULTING ENGINEERS
12TH FLOOR PICBEL PARKADE STRAND STREET CAPE TOWN 8001
P.O. BOX 3276 CAPE TOWN 8000
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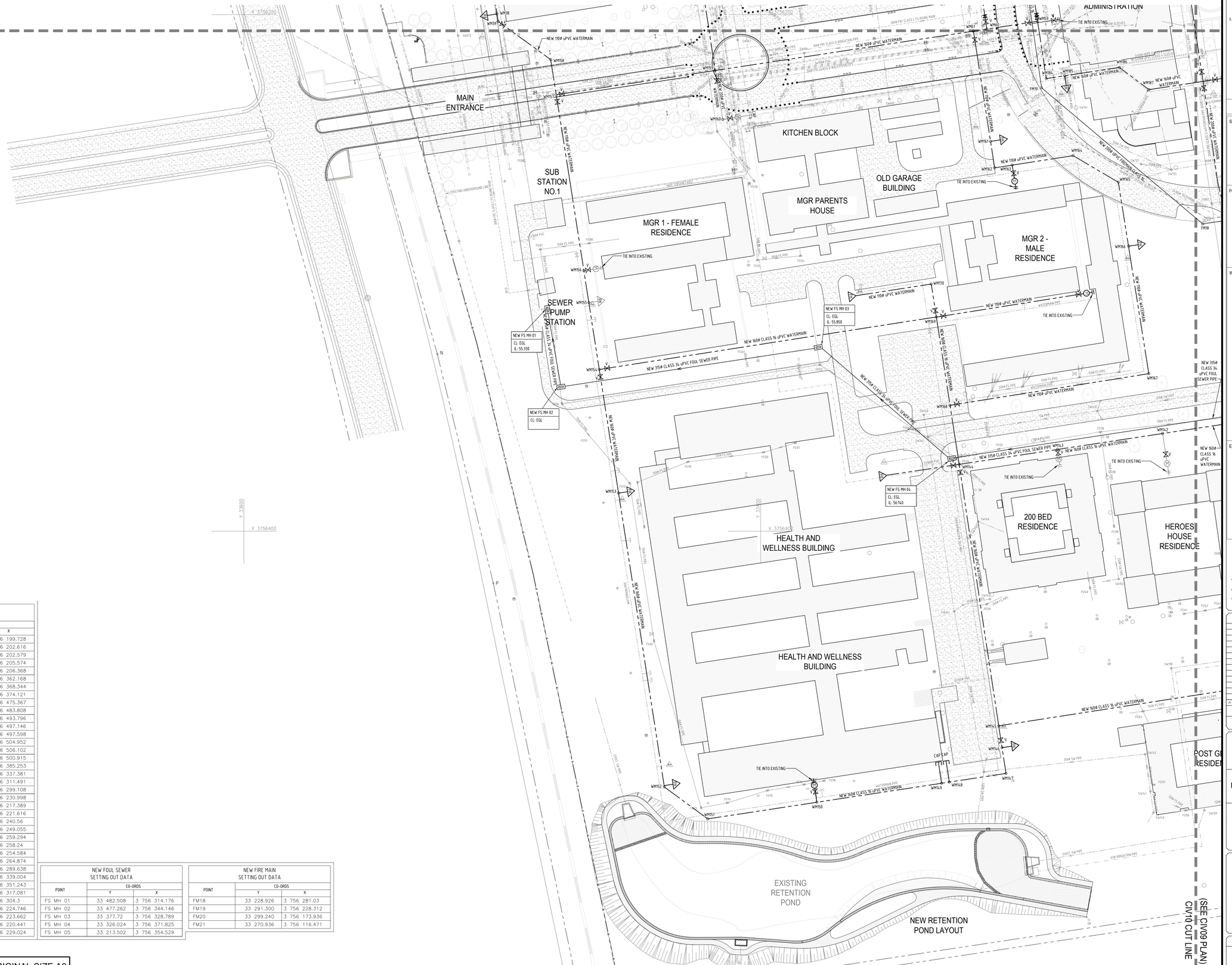
SCALE	DWG. NO.	REV
SCALE	B.614-2/CIV09	A

FOR CONSTRUCTION | ORIGINAL SIZE A0

(SEE CIV07 PLAN ABOVE)

CIV10 CUT LINE



NEW WATER MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
WM38	33 502.008	3 756 199.728
WM39	33 501.566	3 756 202.616
WM59	33 292.85	3 756 202.579
WM60	33 312.479	3 756 205.574
WM61	33 317.681	3 756 206.368
WM142	33 244.483	3 756 362.168
WM143	33 285.158	3 756 368.344
WM144	33 323.202	3 756 374.121
WM145	33 307.889	3 756 475.367
WM146	33 306.602	3 756 483.808
WM147	33 305.079	3 756 493.796
WM148	33 327.057	3 756 497.146
WM149	33 330.021	3 756 497.598
WM150	33 378.271	3 756 504.952
WM151	33 385.812	3 756 506.102
WM152	33 436.989	3 756 500.915
WM153	33 455.005	3 756 385.253
WM154	33 462.469	3 756 337.381
WM155	33 466.506	3 756 311.491
WM156	33 468.436	3 756 299.108
WM157	33 479.115	3 756 230.998
WM158	33 481.261	3 756 217.389
WM159	33 417.61	3 756 221.616
WM160	33 414.685	3 756 240.56
WM161	33 311.062	3 756 249.055
WM162	33 309.475	3 756 259.294
WM163	33 302.678	3 756 258.24
WM164	33 279.093	3 756 254.584
WM165	33 261.609	3 756 264.874
WM166	33 257.67	3 756 289.638
WM167	33 249.818	3 756 339.004
WM168	33 326.732	3 756 351.243
WM169	33 332.023	3 756 317.081
WM170	33 334.002	3 756 304.3
WM184	33 289.504	3 756 224.746
WM185	33 282.386	3 756 223.662
WM186	33 261.176	3 756 220.441
WM187	33 249.758	3 756 229.024

NEW FOUL SEWER SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
FS MH 01	33 482.508	3 756 314.176
FS MH 02	33 477.262	3 756 344.146
FS MH 03	33 377.72	3 756 328.789
FS MH 04	33 326.024	3 756 371.825
FS MH 05	33 213.502	3 756 354.529

NEW FIRE MAIN SETTING OUT DATA

POINT	CO-ORDS Y	CO-ORDS X
FM18	33 228.926	3 756 281.03
FM19	33 291.300	3 756 228.312
FM20	33 299.240	3 756 173.936
FM21	33 270.936	3 756 116.471

FOR CONSTRUCTION

ORIGINAL SIZE A0

NOTES

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LEGEND

STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER ROAD CATCHPIT
- EXISTING STORMWATER PIPE

FOUL SEWER
- EXISTING FOUL SEWER MANHOLE
- NEW FOUL SEWER PIPE
- EXISTING FOUL SEWER PIPE

WATERMAINS
- NEW FIRE HYDRANT
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- EXISTING ELECTRICAL SLEEVES
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ELEMENTS ON HOLD

DENOTES REVISION

AMENDMENTS

A	11.08.2020	CA	FOR CONSTRUCTION

DESIGNED	DRAWN	CHECKED
JP	JB	JP Pr.Eng.

Cape Peninsula University of Technology

BULK SERVICES UPGRADE: FOUL SEWER, WATER AND FIRE

NEW SERVICES LAYOUT SHEET 4 OF 4

KFD WILKINSON CONSULTING ENGINEERS

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SCALE	DWG. NO.	REV
SCALE	B.614-2/CIV10	A

Cape Peninsula University of Technology

Traffic input for the CPUT Masterplan

Bellville Campus

Rev1

Issue | 8 December 2014

Job number 236639

Arup (Pty) Ltd
Reg. No. 1994/004081/07 Registered Firm
Consulting Engineers South Africa

Arup (Pty) Ltd
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1st Floor Clock Tower
V&A Waterfront
Cape Town 8001
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Cape Town 8000
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ARUP

Document Verification

ARUP

Job title		Traffic input for the CPUT Masterplan			**Job number** 236639
Document title		Bellville Campus			**File reference**
Document ref		Rev1			
Revision	**Date**	**Filename**	June2014_BellvilleTransport_Rev1.docx		
Draft 1	4 Jun 2014	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Marli Swart	Simon van Jaarsveld	
		Signature			
Draft 2	14 Jul 2014	**Filename**	20140714_BellvilleTransport_Draft2.docx		
		Description	Draft report to submit to the Client and City Think Space for comment		
			Prepared by	Checked by	Approved by
		Name	Marelie Oosthuizen / Marli Swart	Marli Swart	
		Signature			
Issue	8 Dec 2014	**Filename**	20141208_Bellville_Issue.docx		
		Description	Final report for issue		
			Prepared by	Checked by	Approved by
		Name	Marli Swart	Marli Swart	Marli Swart
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
				Issue Document Verification with Document	✓

Contents

1 Introduction

Arup (Pty) Ltd was appointed by the Cape Peninsula University of Technology (CPUT) to provide the Transport input into the CPUT Masterplan project.

From the brief of the project it required four main stages:

- Baseline investigation of each campus taking into account the applicable transport policies and frameworks, the campus location within the wider transport network and public transport network as well as current and proposed vehicular and pedestrian movement networks.
- Evaluation of the traffic impact of the masterplan proposals in terms of:
  - Future street and road network upgrades;
  - Roll-out of public transport systems including bus and rail;
  - Non-motorised transport impacts and requirements and
  - The effect of surrounding planned developments on the campuses (e.g. District Six framework).
- The input into the masterplan needs to highlight:
  - Issues that needs to be taken on board by the masterplan;
  - Provide guidelines and transport planning principles and
  - Make Recommendations to achieve the best development and transport outcomes in terms of the above.
- On each campus a traffic response should be given in terms of street upgrades, transport interchanges, intersections and crossing, parking, servicing and access.
- Prepare transport Recommendations and Guidelines for each campus including guidelines for:
  - Traffic and parking management;
  - Street design typologies;
  - Public Transport stops;
  - Pedestrian and cycle networks and
  - Standardisation of materials.
  - Issues that needs to be taken on board by the masterplan.

The above aspects required close cooperation with the urban designers of the CPUT Masterplan Project and regular meetings were held with the team to ensure integration.

At this stage the intention for the outcomes of this study if to provide Transport input as part of the internal planning exercise for the CPUT Masterplan Project.

This report is the transport report for the CPUT Bellville Campus.

2 Cape Peninsula University of Technology

The vision for the Cape Peninsula University of Technology is:

"To be at the heart of technology education and innovation in Africa."

Figure 1: Bellville Campus Master Plan. (From City Think Space, May 2014)

The university aims to be efficient, sustainable and environmentally conscious. At the development stage of a vision for the Masterplan, a charrette was held and the following important movement and accessibility goals were identified which sets the scene for the development of the movement network on each campus.

- Pedestrian dominance: "Walk in not a drive in";
- There must be an ease of access for visitors and staff while still keeping the university secure;
- Easily accessible campus;
- Campuses that are linked via public transport;
- Public transport as a linking element between Universal access;
- Limited cars on the campus with priority given to the pedestrian; and
- Clear connecting routes with bridges to train stations and buses.

This report will cover the following:

- Current Transport and Land Use Policy, Plans and Projects;
- Trip generation and Land Use;
- Proposals for Non-Motorised Users;

- Public Transport;
- Vehicular Traffic and Road Network;
- Site Access;
- Parking;
- Servicing and emergency;
- Street design typologies; and
- Standardisation of materials

3 Current Transport and Land Use Policy, Plans and Projects

For the development of the transport proposals the following overarching policies, plans and projects were referred to:

Overarching Policies, Plans and Projects:

- Cape Town Zoning Scheme, 2012
- Urban Design Policy, 2013
- Parking Policy for the City of Cape Town, 2014
- Cape Town Spatial Development Framework (CTSDF), 2012
- Applicable District Spatial Development Plans, 2012
- The Integrated Transport Plan, 2013-2018
- NMT Policy and Strategy, 2005
- Draft Parking Strategy and Policy Framework, 2012
- Road Access Guidelines, 2002
- Waste / Recycling Storage Area / Rooms: Standards And Guidelines, 2012
- Minimum Requirements for Vehicle Access, 2002

4 Trip Generation and Land Use

The trip generation is based on the TMH 17 Volume 1 South African Trip Data Manual Version 1.0, September 2012 developed by the Committee of Transport Officials South Africa.

In this manual the land use that was used to generate the vehicle trip portion of the development is universities / colleges which also apply to technikons. The following assumptions were made when the trip generation was calculated.

- The Bellville Campus is seen as a low car ownership area since the majority of the students do not own a car. This allows for a 40% reduction in vehicle based trips.
- The campus is also located on a future MyCiti route which allows for a further reduction in vehicle trips. The reduction for proximity to public transport facilities is 15%.

- According to this the total number of vehicles for the 2030 Scenario will be 1239 vehicles during the AM and PM peak period and 1549 vehicles in the Midday peak hour.

Table 1: Trip generation

Campus	Student Numbers			Car Ownership	Trips Generated (2030)		
	2014	2020	2030		AM Peak	PM Peak	Midday
Bellville Campus	10907	11297	13771	Low	1239	1239	1549

From site observations, a vast amount of passengers access the campus on foot from the Pentech railway station.

5 Non-Motorised Transport

The City of Cape Town has an approved NMT Strategy and NMT Cycle Master Plan. (ITP, 2014). The City recognises the importance of NMT in the overall transport system since all of the journeys includes a NMT component. The following section describes the NMT plans around the Bellville Campus. As part of the NMT plan for the City of Cape Town, a more detailed NMT plan and framework is available for each region of the City. The following report was used to identify the cycling and pedestrian facilities around the Bellville Campus.

> *For the provision of professional services to City wide Non-Motorised Transport project: Central Region. Report on prioritisation of Non-Motorised Projects. (June, 2010)*

The following sections illustrate the NMT facilities for the Bellville Campus.

5.1 CoCT Cycle Routes around the Bellville Campus

The following figure shows the routes around the Bellville campus which is part of the revised Bicycle Master Plan.

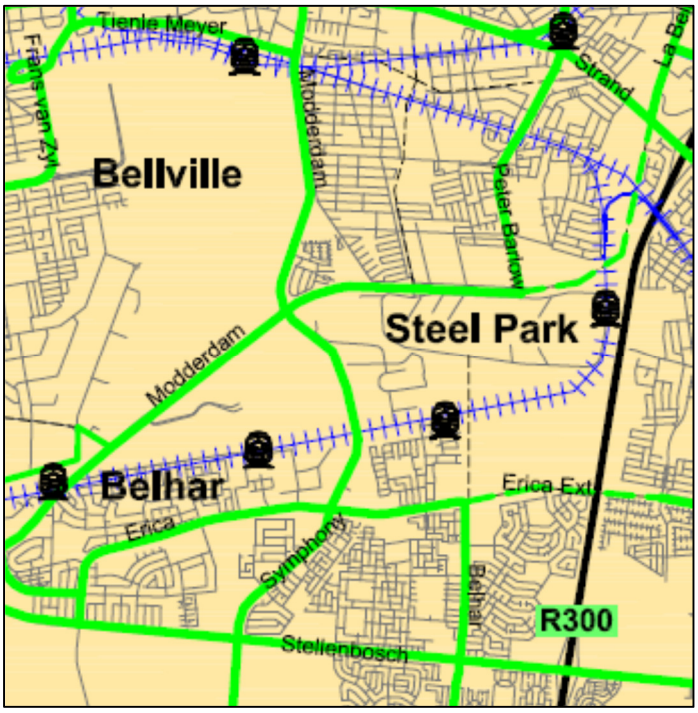


Figure 2: Bicycle Master Plan Bellville extract (Revised Bicycle Master Plan, Nov 2011)

As part of the CoCT Bicycle Masterplan the following two streets are identified as cycle routes.

- Symphony Way Road which is a proposed Class 2 route;
- Modderdam Road East-West is a proposed Class 2 route.
- The connection from the Pentech Rail Station is also proposed as a Class 2 cycle route (Northern Region NMT Plan, 2010)

The City of Cape Town: NMT Policy and Strategy Volume 2: Policy Framework (Oct, 2005) classifies cycle facilities as follows:

- **Class 1**: consists of a dedicated cycle path located outside the road reserve.
- **Class 2**: consists of a dedicated cycle path inside the road reserve but physically separated with a barrier or strip of land from the road.
- **Class 3**: consists of a cycle lane on the road edge marked with road marking or colour surfacing.
- **Class 4**: is a cycle route within a roadway which may be signed where cycle volumes warrant this.

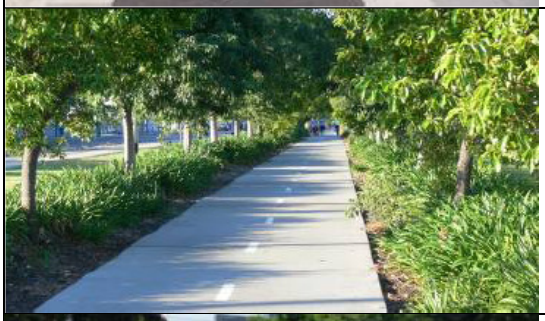
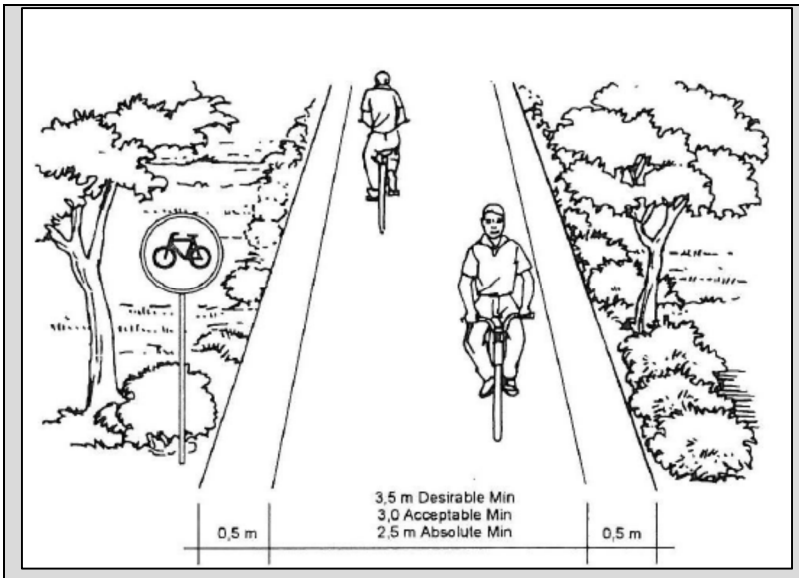
	**Class 1 (Segregated Cycleway)** Consists of a dedicated cycle path located outside the road reserve.
	**Class 2 (Off-Road Paths)** Consists of a dedicated cycle path inside the road reserve but physically separated with a barrier or strip of land from the road.
	**Class 3 (On-Road Cycle Lanes)** Commuter links which consists of a cycle lane on the road edge marked with road marking or colour surfacing.
	**Class 4 (On-Road Shared Carriageway)** Low car volumes and traffic speeds, often residential streets, narrow carriageway widths, can be marked or unmarked

Figure 3: Typical examples of different cycle facilities.

From the National Department of Transport Pedestrian and Facility guidelines (August 2003) the following dimensions are given for a Class 2 bicycle facility.

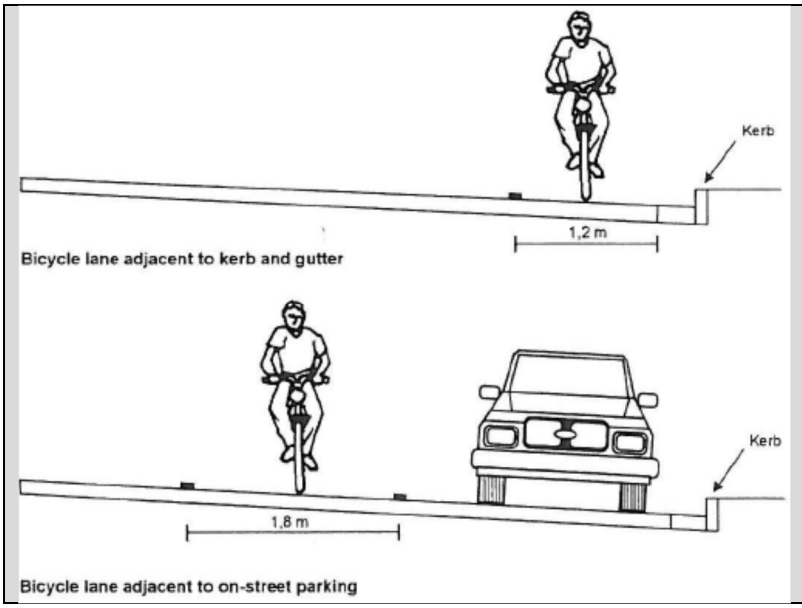


Cycle Path
For the Bellville connection the following roads are earmarked for a Class 2 cycle path.

- **Symphony Way**
- **Modderdam Rd East-West Rd**
- **Pentech connection to Rotterdam Rd and Sacks Circle**

Since separate cycle paths will likely be used in a two way direction it is proposed that space is made on one side of the road. During the detail design phase it should be confirmed which side of the road the separate cycle path should go.

Figure 4: Dimension of a two-way cycle path (Department of Transport: Pedestrian and Bicycle Facility Guidelines, Aug 2003)



Cycle Lane
The Pentech connection end at the **Sacks Circle** which is earmarked as a Class 3 cycle lane. At this stage, with no on-street parking, provision should be made for 1.2m cycle lanes on both sides of the road.

Figure 5: Dimension of cycle lane (Department of Transport: Pedestrian and Bicycle Facility Guidelines, Aug 2003)

The National Department of Transport has an updated NMT Facility Guidelines 2014 which has been released in draft form. This guideline should be consulted when designing the new non-motorised transport facilities for the campus.

5.2 CoCT Pedestrian Routes around the Bellville Campus

From the City Wide Non-Motorized Transport Network Plan: Northern Region. (June, 2010) the following image shows the planned pedestrian (black lines) and cycle routes (light blue and red lines) around the CPUT campus.

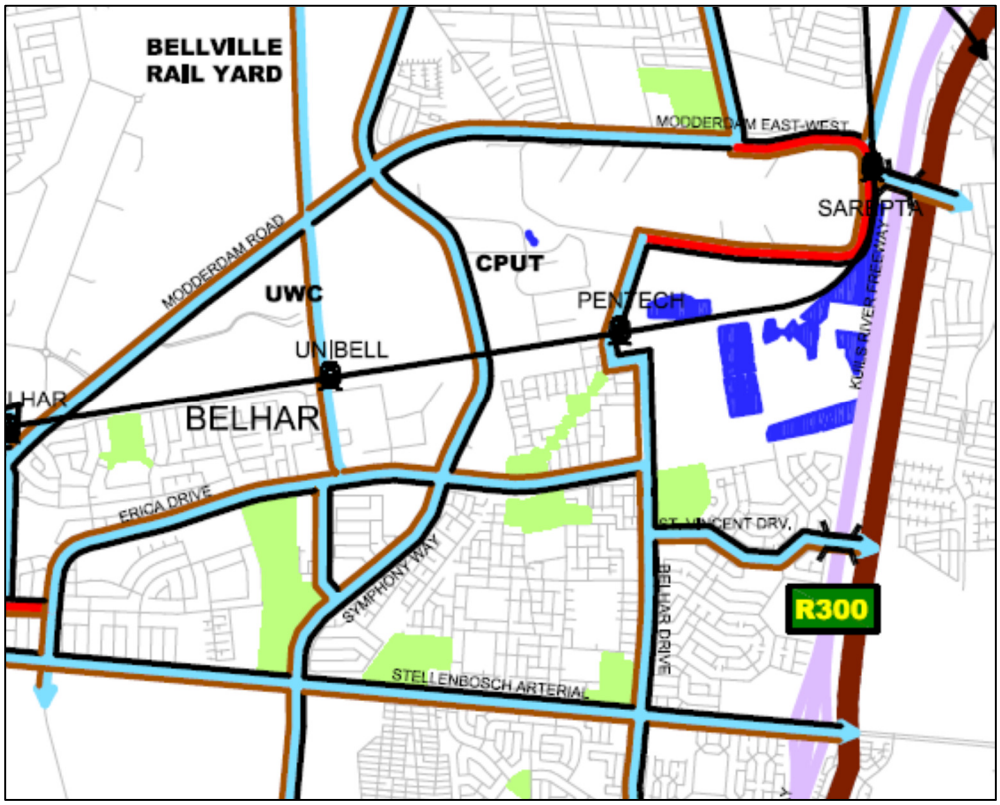


Figure 6: Non-Motorised Facilities around the Bellville Campus (Northern Region NMT report, June 2010)

As can be seen from the image, the planned pedestrian sidewalks are proposed along the same routes as the cycle paths and lanes namely:

- Symphony Way;
- Modderdam Rd East-West Rd; and
- Pentech connection to Rotterdam Rd and Sacks Circle.

Sacks Circle

This photo shows the existing NMT facilities along Sacks Circle next to the University Sports Fields. There is great potential to enhance this area to make a more positive pedestrian environment.

Photograph 1: Sacks Circle along the CPUT Sports Field. (Looking west)

Symphony Way
(travelling south)
This photo shows the existing painted cycle lane on the road travelling westwards towards the CPUT campus on the left. The proposal to upgrade this with a separate cycle path will greatly improve the safety of bicycle users.

Photograph 2: Symphony Way with CPUT on the left and UWC on the right.
(Looking west)

	**Pentech Station Link** (looking south) This photo shows the existing pedestrian walkway from the CPUT campus to the Pentech Station. As part of the Masterplan this link is proposed to be upgraded. It should include cycle facilities.

Photograph 3: Pentech Station pedestrian link from CPUT. (Looking south)

	**Pentech Station Link** (looking north) This photo shows the existing pedestrian walkway from Pentech Station to the CPUT campus. As part of the Masterplan this link is proposed to be upgraded.

Photograph 4: Pentech Station pedestrian link from Station to CPUT. (Looking west)

Internal Pedestrian Links
This photo shows the existing pedestrian links internally on campus. Good provision is made for pedestrians but this need to be enhanced with cycling lanes and facilities. It is also very important to do a universal accessible survey of the routes. Bollards are known to be hazardous for people with sight disabilities.

Photograph 5: Internal pedestrian links on campus.

5.3 Masterplan Proposal for Non-Motorised Users

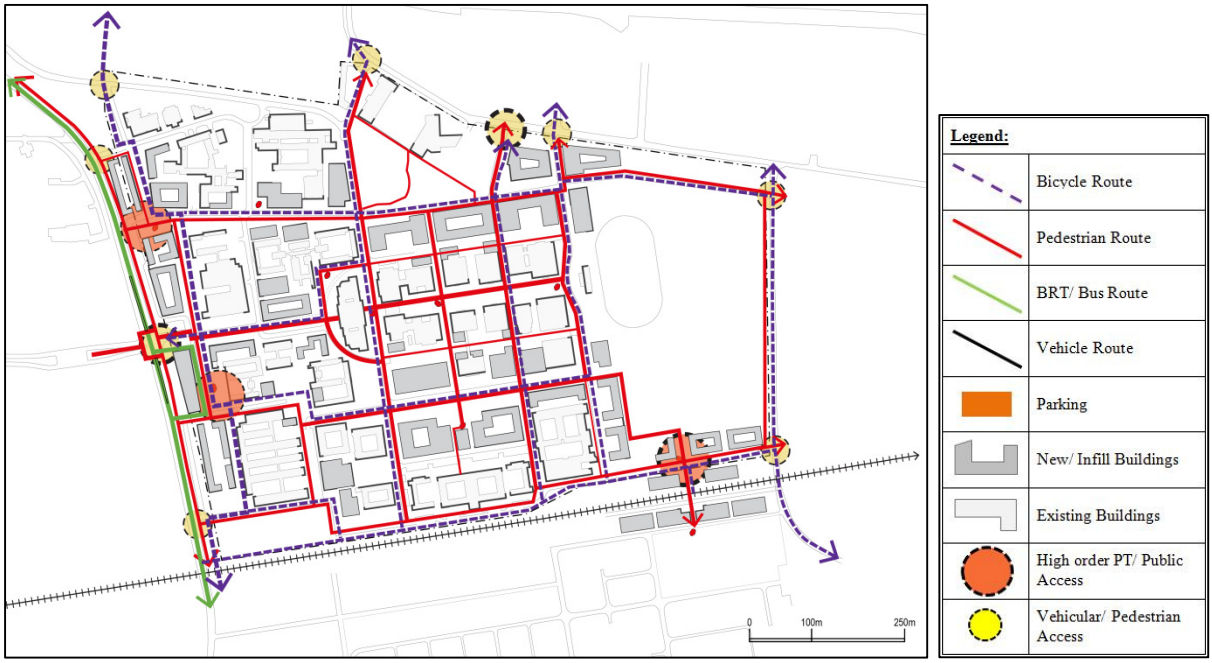


Figure 7: City Think Space NMT proposals (July 2014)

The following proposals are made for the Masterplan:

Pedestrian access and circulation:

- 1.North-south link
- 2.East-west link
- 3.Make strong pedestrian routes/ priority to pedestrians
- 4.Provide mobility system within academic core
- 5.Network of clear bicycle paths

- 6.Improve security on link from Pentech Station

5.4 Comments and Recommendations

Internal Pedestrian / Cycling Routes on Campus:

The design of the internal pedestrian and cycling routes on the Bellville Campus will need careful consideration to ensure that the vision as proposed by the Masterplan to create priority for pedestrians and cyclists over the existing strong car presence is achieved. The following main links are proposed:

- Create a strong north-south link from the Sacks Circle gateway to Pentech Station and an east-west connection off Symphony Way and Mabaleng Way towards the heart of the campus along the Dome of Remembrance axis;
- Make strong and clear pedestrian routes to surrounding amenities including the Sacks Circle Industrial Area to the north, the future activity corridor and MyCiti route on Symphony Way, to UWC and to the Pentech Station.
- Establish a network of clearly marked bicycle paths by connecting the on-campus bicycle network with NMT routes along Symphony Way.
- Use new residences to improve the security of the link from Pentech Station to the heart of campus.
- Provide two public transport plazas along Symphony Way.

Design principles for the internal roads should include:

- Infrastructure integration with public transport stations to ensure that the transfer from walking and cycling to public transport is easy and universally accessible.
- Traffic management: give priority to cyclists and pedestrians on the internal roads. This should include a minimum speed limit for motorised transport of 40km/h.
- Enforcement by CPUT Traffic Services: protection of cyclists and pedestrians in case of accidents by providing visible enforcing of the traffic rules on campus. This should include the management of parking by checking that cars have valid parking discs as well as fines for speeding.
- The design of the routes should also include traffic calming measures for example chicanes, raised crosswalk, chokers, mini circles etc. The following image shows examples of how this can be done.

Image showing traffic calming measures that should be used on the Bellville Campus internal roads.

Proposed Public Transport Plaza / Pods:

- The design of the Public Pods as proposed by the Masterplan could enhance the connection of students to the future MyCiti Services. The pods, which are public spaces for students to meet, could include electronic screens indicating when the next bus will be arriving. By providing live updates of the services to Campus the students can enjoy maximum time with friends before getting on the bus. This will need coordination with the Transport for Cape Town Control Centre. The pods could also include a free Wi-Fi area to assist students planning their trips on their smart phones.

To illustrate how some of these information elements could look the following images illustrate some examples.

Dynamic information showing when the next bus will be arriving. This will have to be coordinated with the Transport for Cape Town Control Centre. (Rex Gephart and Russ Chishom)

Static Information at the Gautrain Station in Pretoria which provides general information on how to use the system as well as time schedule changes.

- The Public Pods should also include bicycles racks.

North-south pedestrian link

- 3m wide (1.5m minimum – preferably 1.8m)

East-west pedestrian link:

- 3m wide

Provide mobility system within academic core:

- Design campus in such a way that the vehicular movements are removed from the centre of the campus.

Network of clear bicycle paths:

- Minimum width for one-way track is 2,75m and a two-way track is 3,6m
- Maximum gradient should be 5% (1:20), with a maximum cross-fall of 2,5% (1:40)

Improve security on link from Pentech Station:

- Create active edges along the link in order to promote passive surveillance.

6 Public Transport

6.1 Transport for Cape Town Integrated Public Transport Plan

The Integrated Transport Plan for Cape Town describes four levels of Public Transport services. These are:

Table 2: Four levels of hierarchy of the IPTN (Table 6-3: page 122 CoCT: ITP)

Services	CTSDF Scale	Capacity (pax/hr/ dir)	Average operating speed	Frequency / Headway	Station / Stop spacing	Service Type	Technology
Level 1 (Trunk & Express)	Metro-Regional	20 000 to 50 000	35–60 km/hr	5min peak 10min off-peak	1,500 – 3,000m	Dedicated RoW	Heavy Rail
Level 2 (Trunk)	Metro-Regional	5 000 to 20 000	30–40 km/hr	8min peak 15min off-peak	1,000-800m	Semi dedicated RoW	Heavy Rail, LRT, BRT
Level 3	District-Local	2 000 to 5 000	25-35 km/hr	15min peak 30min off-peak	500m – 1,200m	Feeder / Distributo r	LRT, BRT, Bus, MBT
Level 4	Neighbour hood	0 - 3000	5-30 km/hr		<500m	Local Access	MBT, Metered Taxi, and alternative technologie s (pedicabs, tuk-tuk)

Service Characteristics

Level 1 and Level 2 services:

- All services at Level 1 and 2 will become universally accessible in terms of both the vehicles and transfer facilities. New BRT services will be designed to be universally accessible and the rail system will be transformed through the PRASA's modernisation programme. (CoCT: ITP,2014)
- Services to be scheduled for peak and off-peak. (CoCT: ITP,2014)
- Target is to provide an 18-hour operational day service. (CoCT: ITP,2014)

Level 3 services:

- These services will distribute passengers to social and economic facilities in a local area, as well as
- Provide feeder services to higher order level 1 services. (CoCT: ITP, 2014).
- Vehicles need to be appropriately branded and some of the services will be universally accessible.

Level 4 services:

- On-demand services for short low demand trips.
- Motorised modes are regulated and operate according to the conditions provided in the Operating License. (These modes include Amaphelas, Metered taxi's, Tuk-tuks, Pedi-cabs and others).

Non-Motorised Transport:

"In addition to the motorised modes, Non-Motorised Transport (NMT) remains the most important and preferred "mode" in the public transport system, and need to be considered as the primary means of travel that must be promoted, and accommodated in all aspects of design." (CoCT ITP 2014, page 124)

6.2 Public Transport Access to the Bellville Campus

The Bellville Campus enjoys good connection to Level 1 and future Level 2 public transport services as shown in the image below.

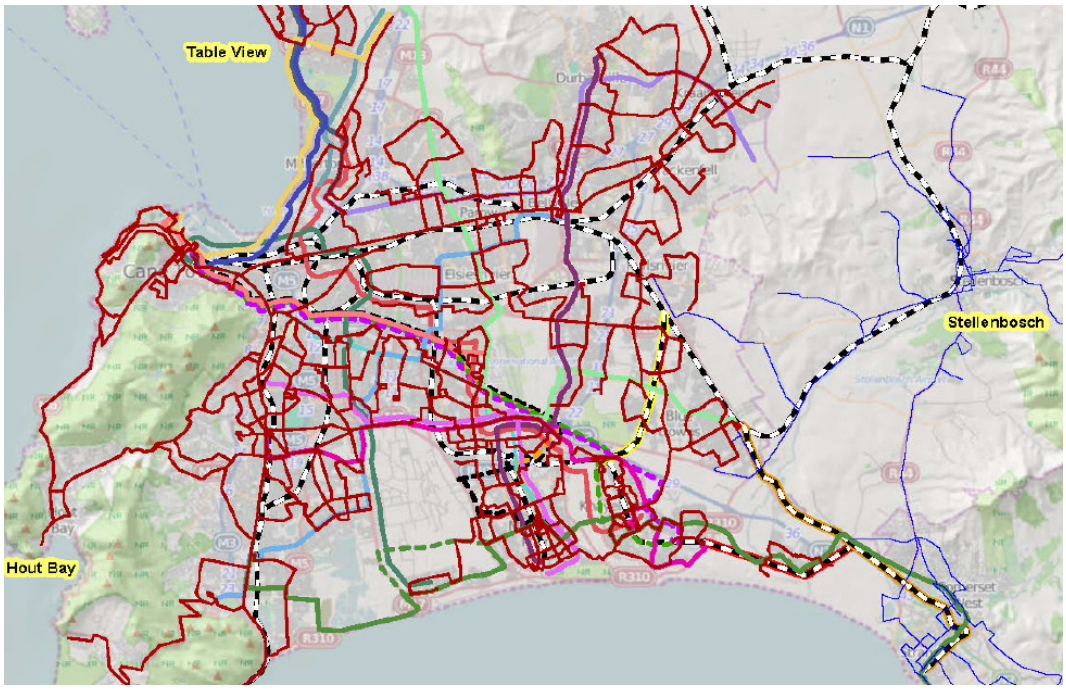


Figure 8: Image showing the Integrated Public Transport Network (IPTN) for 2032 (City of Cape Town, May 2014)

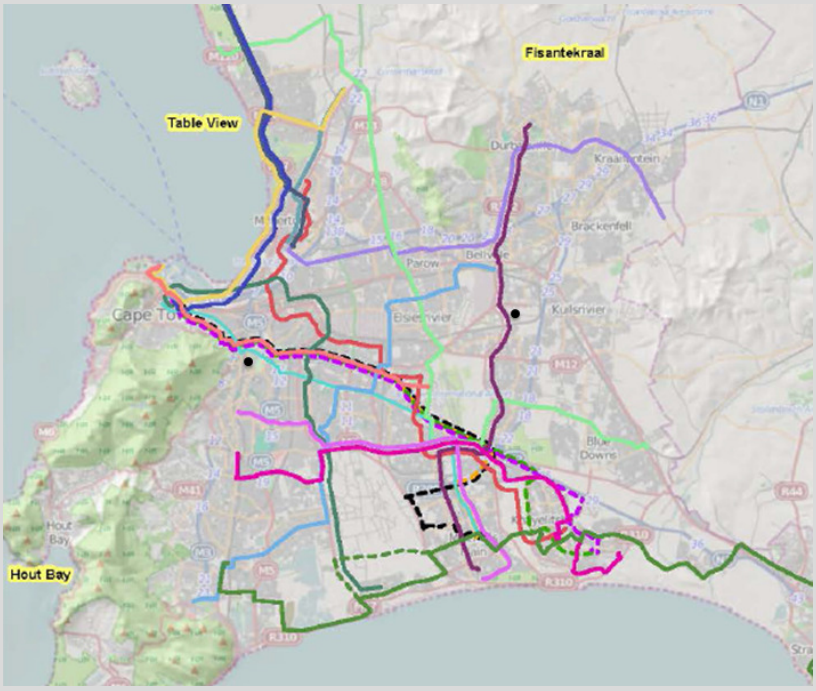
Rail Services (Level 1):

- With the Pentech Station at the doorstep of the Bellville Campus, a range of students all over Cape Town and surrounds can access this campus.
- Origins include Worcester, Malmesbury, Wellington, Bellville, Strand, Mitchell's Plain, Khayelitsha, Ottery, Simonstown, Wynberg.
- The responsibility to upgrade the services is part of the Prasa Modernisation projects which includes the procurement of new rolling stock and upgrading the signal system. Adding the Blue Downs rail link to the system will also enhance the transfer operations of rail passengers providing a more direct link to Bellville from the Metro-Southeast.

Figure 9: Origins from the Rail Network

MyCiti Services:

- Trunk MyCiti services are planned to be operation in 2032 going right past the main entrance of CPUT on Symphony Road.
- This service will greatly improve the quality of public transport services to the Bellville Campus.



Future 2032 MyCiti Trunk Services:

The figure shows the proposed trunk route on Symphony Way past the main access of the Bellville campus.

Figure 10: Future 2032 MyCiti Trunk Services.

Golden Arrow Bus Services:

- There are existing Golden Arrow bus services and stops along Sacks Circle.

Minibus Taxi Services:

- Minibus taxis have an existing holding area on Symphony Way to serve both the CPUT Campus and the University of the Western Cape.

6.3 Comments and Recommendations

Existing Public Transport Access:

- The Bellville Campus has good existing Public Transport services with Minibus taxis stopping at the main access to campus on Symphony Road. The Golden Arrow bus services have stops on Sacks Circle.
- From observations, the rail services are used extensively to access the Bellville Campus with the Pentech Railway Station at the doorstep of the Campus.

Promoting Public Transport Use:

- Symphony Way is planned as a MyCiti trunk route in the 2032 IPTN plan. (CoCT: IPTN 2014)

- One coordinated MyCiti Stop for both CPUT and UWC should be encouraged so as to maximise the ridership on the MyCiti Routes.
- The MyCiti station design should be integrated with both of the facilities' main entrance gates to allow efficient pedestrian crossing facilities, entrance facilities and connection to other Public Transport.

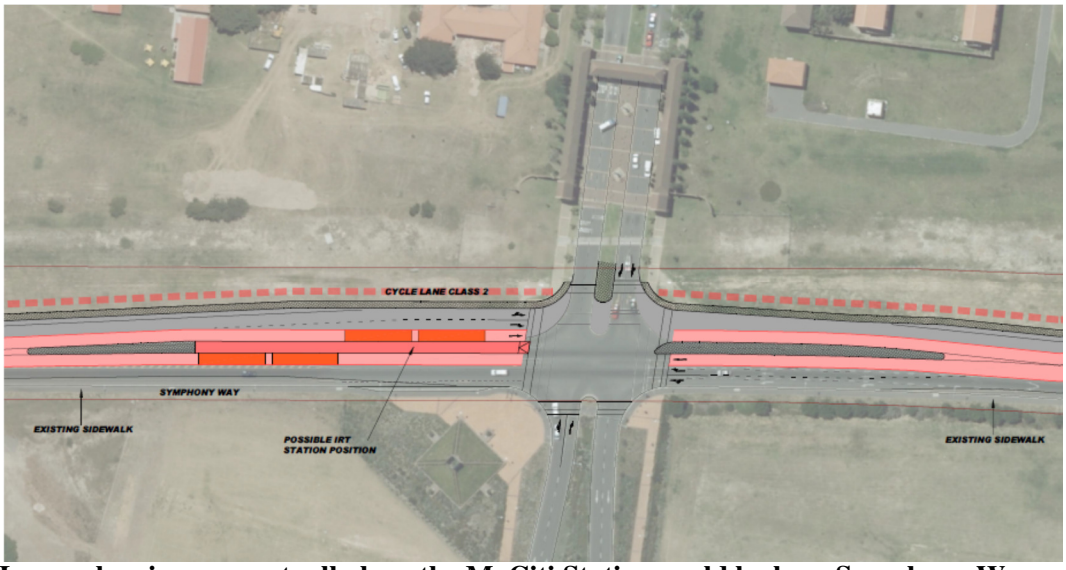


Image showing conceptually how the MyCiti Station could look on Symphony Way and the Accesses to both Universities.

- At this stage the IPTN 2032 plan illustrates that Symphony Way is planned as a trunk route. It should however be kept in mind that the City will continually update the planning of the MyCiti services according to demand. The MyCiti Station on Symphony Way could also be designed as a kerb station which means it will be on the side of the road as opposed to a station in the middle of the road. The most important element when the Station design is being done will be for both Universities to consult with the Transport for Cape Town department to ensure that the needs of students will be taken into account.
- The proposed upgrading of the Pentech Station link to Campus will greatly enhance the environment around the station and improve safety and security. The design should include provision for Bicycle facilities to ensure that students can connect from the train to the cycling lanes on campus.
- It is recommended that the CPUT Masterplan ensures that the internal pedestrian routes to buildings as well as the routes inside the buildings are universal accessible routes. This in turn should connect with the universal accessible stops of the MyCiti and rail services.
- By using universal accessible design principles, the pedestrian quality for **all users** will improve.
- The promotion of cycling should be encouraged by providing bicycle racks at buildings and showers in academic buildings to encourage students to use active modes of transport.

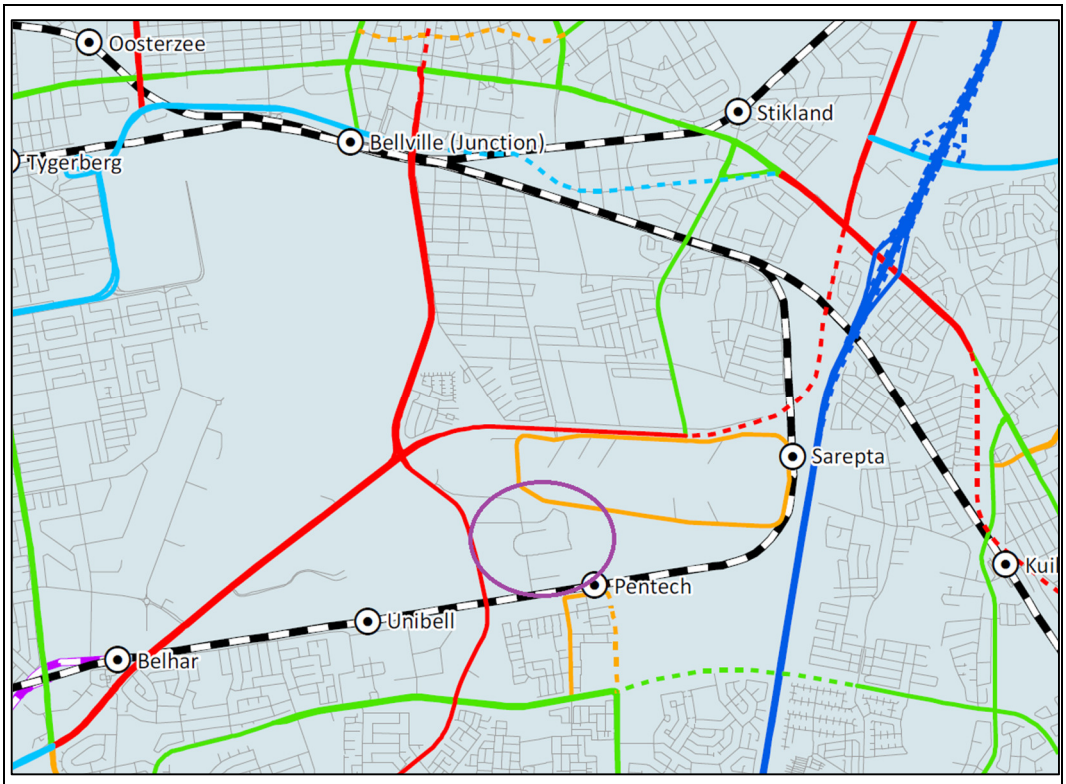
- Advertising the available services in a more concise information brochure on the CPUT website can also encourage the use of public transport.
- Key events triggers mode choice change (Lazendorf, 2006). These events include obtaining a driver's license, learning to ride a bike, moving, marriage, etc. Since the attendance of a Tertiary Education facility is also a major stage in a person's life, it can be an excellent opportunity to capture public transport users for life. The student community has generally low car ownership and by providing good public transport services to them together with good cycling and walking facilities the habits of using public transport can be established. CPUT can play an active role in making the public transport journey a positive one by ensuring that the pedestrian walkways to and from public transport services is in a good condition.

Estimation of Public Transport Services for the Future Masterplan:

- It is proposed that CPUT do a regular transport customer survey to obtain the needs of the students in terms of their transport needs.
- This survey can also give an indication of the existing modal split on each campus.

7 Vehicular Traffic and Road Network

7.1 City of Cape Town Road Network



The Road Network as per the Cape Town ITP

- Symphony Way (Red) is an existing primary arterial (class 2): *high order arterial with at-grade intersections and restrictions on private driveways**
- Sacks Circle: Existing local distributor (class 4): : *serve important integration functions with increased levels of direct property access / support PT (also called activity spines)**

*Road Access Guidelines, Provincial Administration Western Cape (2002)

The following proposals are made for the Masterplan:

Vehicular access and circulation:

- 8. Additional vehicular access points
- 9. Reduce on-site parking/ Rationalise car parking
- 10.Create a clear, integrating grid network of streets

7.2 Masterplan Proposal for the Road Network

7.3 Comments and Recommendations

Vehicular access and circulation:

8. Additional vehicular access points

- Proposed new accesses on Symphony Way road and Sacks Circle Road.
    - The proposed accesses might pose a problem since they are too close to each other. The accesses on Symphony Way are approximately 300m from each other. The accesses on Sacks Circle are about 75m separated.

According to the PAWC Road Access Guidelines the minimum spacing between accesses are as follow:

Development	Access Type	Full Access	Left Only
Intermediate (60km/h)	Unsignalised	180	120
	Signalised	540	
Suburban (80km/h)	Unsignalised	270	160
	Signalised	800	

    - Symphony Way are proposed to be a BRT route in the future, this might also pose a problem for the proposed accesses.

9. Reduce on-site parking/ Rationalise car parking

10. Create a clear, integrating grid network of streets

8 Parking

8.1 Parking Requirements as per the CTZS

The City of Cape Town Zoning Scheme (CTZS, 2012) provides the minimum off-street parking requirements that should be provided by a development. The rate of parking is provided per land use by using three different categories namely:

- Standard areas;
- PT1 areas: "areas where the use of public transport is promoted, but where Council considers the provision of public transport inadequate or where the use of motor vehicles is limited" (CTZS, 2012)
- PT2 area: "areas where the use of public transport is promoted and Council considers the provision of public transport good, or where the use of motor vehicles is very limited." (CTZS, 2012)

Looking at the Bellville campus location the site currently falls just outside the PT1 boundary. From the Bellville main gate the distance to the PT1 zone line is +- 2.5km. The vision for the City is to expand the PT1 and PT2 zone areas as the public transport improved. The Master plan vision is aimed at a 2030 horizon year, and by this stage we envisage that the proposed trunk BRT line on Symphony way will be in place. For this reason the PT2 ratio for parking requirement were applied.

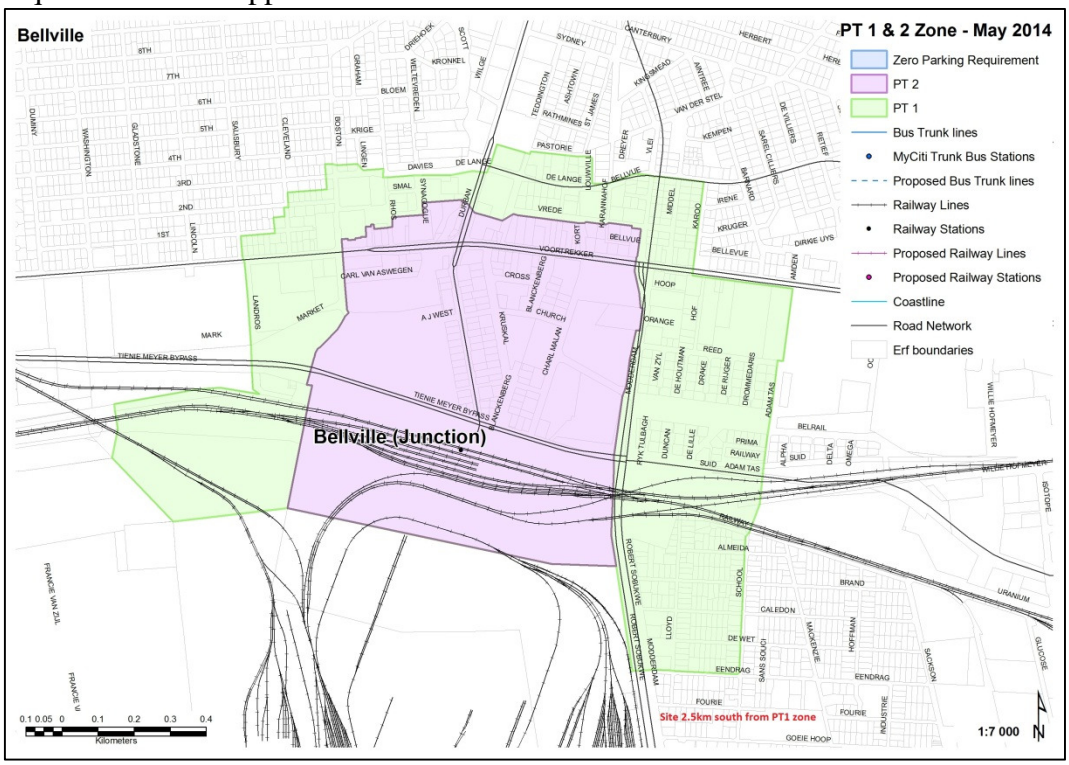


Figure 11: **Map showing the existing PT1 and PT2 zones in the Bellville Area.** (from Spatial Planning and Urban Design Department – CoCT, June 2014)

8.2 Existing Parking Provision:

Figure 12: Map showing an estimation of the existing parking spaces on Campus. (Orange indicates marked, formal bays and red indicates the spaces on open land)

There are roughly 1,060 parking bays provided on the Bellville campus. These parking areas are spread throughout the entire campus and are very fragmented. In addition to these formal parking bays there are approximately 39 000 m^2 of open land used as parking by the students, which could result in about 1,565 parking bays.

8.3 Parking Proposal for Bellville Campus

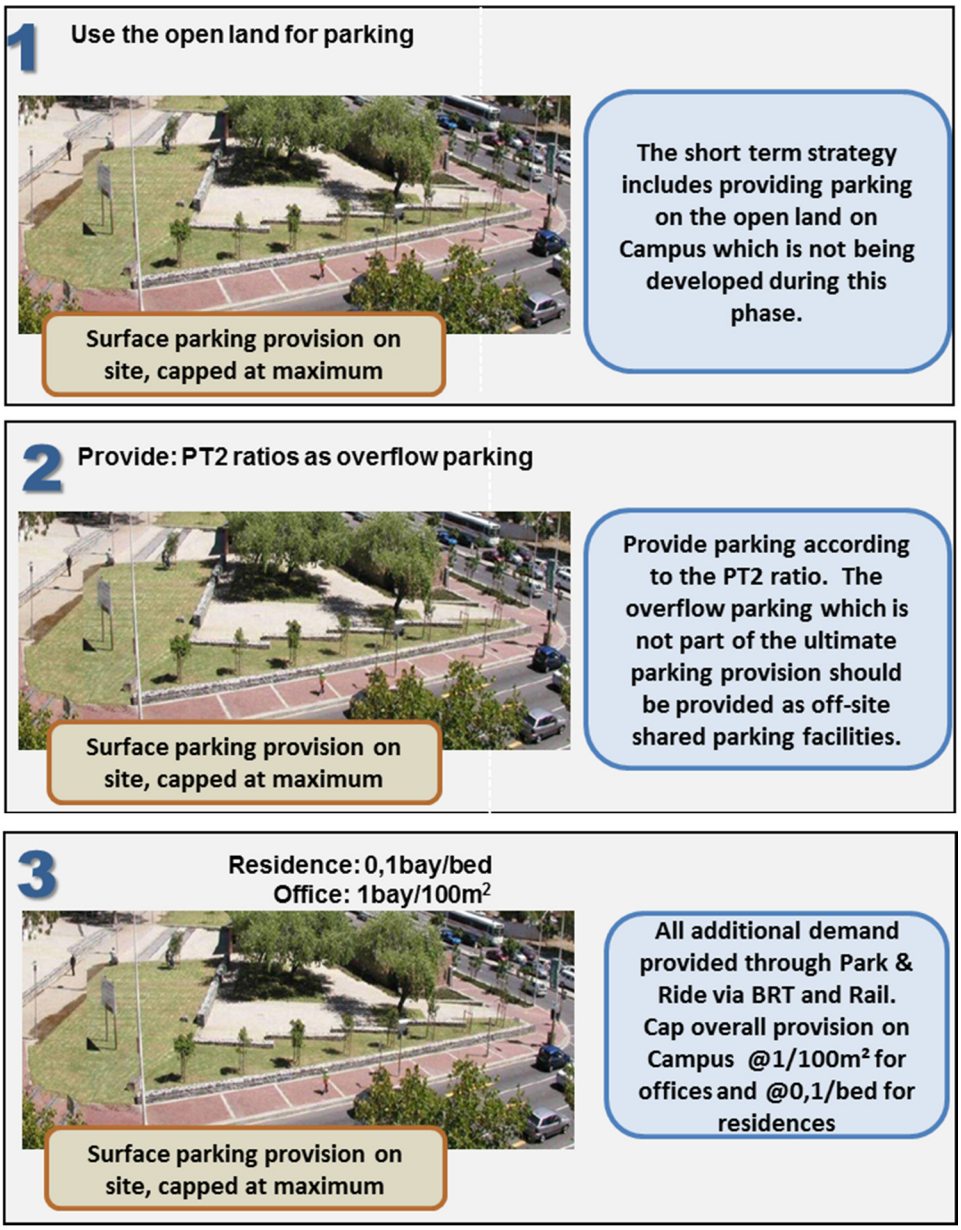
The CPUT Bellville campus has good existing connections to public transport services. This together with the future plan to design Symphony Way as a trunk MyCiti bus route has encouraged the team to propose reduced parking ratios for this campus. Since the planned MyCiti service is only becoming operational around 2032, a phased parking strategy for the Bellville Campus has to be done. The following paragraphs explain the rationale.

- Due to the various public transport options that will ultimately be available within walking distance of the site there is an opportunity to encourage a significant shift to more sustainable transport modes. This can be done through the provision of infrastructure integration with public transport stations to ensure that the transfer from walking and cycling to public transport is easy and universally accessible.
- However, it is recognised that in the short term parking to the Bellville Campus cannot be reduced too much before a fully functioning BRT system is in operation together with the upgrading of the Rail services. A phased approach will therefore be required.

- The application of phased parking ratios over three horizon year periods in coordination with the three implementation phases is proposed.

A threefold approach is recommended to address the parking supply for the Bellville Campus:

- Reduce the overall parking provision and lower parking ratios in the long term. Only the long term ratio should be used to construct new parking on the campus since this is the ultimate vision and goal for the Campus. It is proposed to use 0,1 bays per bedroom (for residence) and 1 bay /100m^2 for office space.
- In the medium term provide parking according to the PT2 ratio (CTZS, 2012). The overflow parking which is not part of the ultimate parking provision can be provided as off-site shared parking facilities. For example, at the Pentech Railway Station or a shared facility between UWC and CPUT. The overflow parking is to be utilised as shared parking i.e. where spaces are occupied by two or more separate groups of people regularly.
- The short term strategy includes providing parking on the open land on Campus which is not being developed during this phase.



The current minimum off street parking requirements from the CTZS shows the following ratios for campuses.

Table 3: Parking Ratios as per the CTZS scheme (2012)

Land Use	**Standard areas**	**PT1 area**	**PT2 area**	**Proposed Reduced Ratio (for the CPUT Campus)**
Boarding house, guest house (equivalent to residence on campus)	1,25 bays per bedroom	0.75 bays per bedroom	0,3 bays per bedroom (as agreed with CoCT official)	**0,1 bays per bedroom (as used in overseas Universities)**
Place of instruction (post-school level)	0,4 bays per student, plus 1 bay per classroom and office	0,4 bays per student, plus 1 bay per classroom and office	1 bay per classroom and office	**1 bay / 100m^2 office space**

Using the proposed reduced parking ratio the following parking spaces is required for the 2030 horizon year.

Table 4: Parking spaces for 2030 applying the reduced ratio

Campus	**Student Residences (headcount)**	**Office Space (GLA m^2)**	**Spaces required 2030**
Bellville	10 336 x 0,1 = 1034	17 628 x 1bay/100m^2 = 176	**1210**

To motivate for the reduced parking ratios, the CPUT will have to provide a Parking Management Strategy. This could be based on other University Parking Strategies.

University of Cape Town Parking Strategy:

- Under graduate students can only park outside the boomed-off areas and need to buy discs to park on campus – very little parking for students are provided.
- For staff and other master students etc. parking is also provided on a paid basis like follows:
  - Red Disc: Bays provided close to the building entrance for Associate/Prof and Prof (R 114/month)
  - Yellow Disc: Other students and post graduate students and senior lecturers
  - Carpool: Multiple number plates on disc so that people who car pool can share the parking space
- UCT 0.22 parking bays/ student = 5 500 parking bays/ 25 000 students and staff

- Parking structures should be located below ground or higher than the first two levels above ground. If this is not possible the structures should be wrapped with active use along the boundary. It should also be located in order to give convenient access but not at the expense of a positive public realm.

- Car parking facilities must be located to offer convenient access, but not at the expense of pedestrian safety and convenience. Minimise the impact of parking areas on the living environment through the provision of at least 1 shade tree per 3 parking bays.

Best Practice Case Studies

Stanford University Parking Strategy (USA, California):

- Requires permit for on-campus lots.
- Visitor parking: Pay meter or time limit during weekdays, weekends normally free.
- Commuter parking: Need a permit to park on these facilities.
- Resident parking: Need a permit, each permit is linked to a specific parking area.
- They have a "Freshman: No Cars" program.

Brown University Parking Strategy (USA, Rhode Island):

- Faculty and Staff: 0.3 parking bays/ staff
- On-Campus Students: 0.125 parking bays/ student
- Off-Campus Students: 0.5 parking bays/ student

University of Cape Town Parking Strategy:

- UCT 0.22 parking bays/ student = 5 500 parking bays/ 25 000 students and staff
- Under graduate students can only park below the boomed area and need to buy discs to park on campus – very little parking for students
- For staff and other master students etc. parking is also provided on a paid basis like follows:
  - Red Disc: Bays provided close to the building entrance for Associate/Prof and Prof (R 114/month)
  - Yellow Disc: Other students and post graduate students and senior lecturers
  - Carpool: Multiple number plates on disc so that people who car pool can share the parking space

9 Servicing and Emergency

Road layouts and reserve widths should be designed to accommodate typical waste collection and emergency vehicles. These designs should be based on the SU type vehicle as specified in Table 7.2 of the Red Book: Guidelines for Human Settlement. These guidelines are as follow:

Table 5: Vehicle Type Guidelines

Vehicle	Wheel Base (m)	Front Overhang (m)	Rear Overhang (m)	Width (m)
Single Unit (SU)	6.1	1.2	1.8	2.5

There is an existing service entrance on the Pentech Service Road.

References

Brown University. (2011) *Brown University Institutional Master Plan*

City of Cape Town. (2013) *Urban Design Policy*

City of Cape Town. (2014) *Integrated Public Transport Network Plan 2032*

CSIR. (2005) *Guidelines for Human Settlements Planning and Design*

Department of Transport (DOT). (2003) *Pedestrian and Bicycle: Facilities Guidelines*

Provincial Administration Western Cape. (2002) *Road Access Guidelines*

Stanford. (2013) *Stanford University Parking Information* http://transportation.stanford.edu/parking_info/ParkingInformation.shtml Date of use: 1 July 2014.

ANNEXURE 7:
DHET Minimum Standards for Student Accomodation

GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF HIGHER EDUCATION AND TRAINING

NO. R. 897 **29 SEPTEMBER 2015**

HIGHER EDUCATION ACT, 1997 (ACT NO. 101 OF 1997)

THE POLICY ON THE MINIMUM NORMS AND STANDARDS FOR STUDENT HOUSING AT PUBLIC UNIVERSITIES

I, Bonginkosi Emmanuel Nzimande, MP, Minister of Higher Education and Training, in terms of section 3 of the Higher Education Act, 1997 (Act No. 101 of 1997), after consulting the Council on Higher Education, hereby publish the Policy on the Minimum Norms and Standards for Student Housing at Public Universities, as contained in the attached Schedule. The effective date for the implementation of this policy will be the date of gazetting the policy.

Minister of Higher Education and Training

Date: **17/09/15**

SCHEDULE

POLICY ON THE MINIMUM NORMS AND STANDARDS FOR STUDENT HOUSING AT PUBLIC UNIVERSITIES

1. INTRODUCTION

The Report on the Ministerial Committee for the Review of the Provision of Student Housing at South African Universities, September 2011 (hereinafter referred to as the Report) established that the accommodation of students is broader than the mere provisioning of beds; it is about establishing living, learning and social communities.

The Report established that there are widely varying standards for housing university students across the public higher education sector. A significant proportion of the current stock was found to be sub-standard. Amongst others, the lack of adequate food and nutrition was identified as a challenge for most students living in student residences. The Report also showed that there is a severe shortage of accommodation for students with disabilities. Most universities have no suitable residences for students who require wheelchair accessible buildings, rooms and bathroom facilities.

In the past there has been no national policy or guideline to provide minimum standards for the housing of students in the university sector.

The *Policy on the Minimum Norms and Standards for Student Housing at Public Universities* has been developed in response to the findings of the Report.

The aim of the *Policy on the Minimum Norms and Standards for Student Housing at Public Universities* (hereinafter referred to as the Policy) is to regulate the provision of on- and off-campus student housing at South African public universities. The norms and standards must be applied at all public universities and university-accredited student housing providers across the sector.

The application of these norms and standards will ensure that students are provided with adequate, fit-for-purpose accommodation of reasonable quality, and enjoy learning and living environments that promote academic success.

This Policy must be implemented when planning specifications for the building of new student housing and where practical, the refurbishment and renovation of existing student housing. Student housing must provide for universal access for students with disabilities, and all

reasonable measures must be taken to ensure that disability is incorporated into the design of new residences.

This Policy does not absolve or release any student housing provider from any local, provincial and national legislation which applies to any aspect of the housing and housing of students for example the National Building Regulations and Occupational Health and Safety Act.

2. GENERAL DEFINITIONS

In this policy, words importing the singular shall include the plural and vice versa and words importing the masculine gender shall include the feminine and neuter genders, and vice versa and any word or expression to which a meaning has been assigned in the Higher Education Act bears the meaning so assigned, unless the context indicates otherwise-

"accessible" means public places must be accessible to individuals with disabilities through architectural design (such as ramps, wheelchair-wide doorways) and/or the use of assistive technologies;

"**audits**" means a random sampling of facilities;

"council controlled funds" means the total of all funds, inclusive of both encumbered and designated funds, that are under the control of the council, but does not include non-discretionary funds;

"Department" means the Department of Higher Education and Training as the government department responsible for higher education;

"Higher Education Act" means the Higher Education Act, 1997 (Act No. 101 of 1997);

"on-campus accommodation" means units for accommodation on the premises of the university, which can vary from large blocks of rooms similar to residence halls, to multiple bedroom houses that house students;

"off-campus privately owned housing" means privately owned housing units. This can vary from large blocks of rooms similar to residence halls, to multiple bedroom houses that house only students, through to individual rooms in houses occupied by the home owner. This includes a housing facility leased by the university directly with a landlord or indirectly through an accredited leasing agent;

“paraplegic” means complete paralysis of the lower half of the body including both legs, usually caused by damage to the spinal cord;

"public university” means any public higher education institution that is established, deemed to be established, or declared as a public higher education institution under the Higher Education Act, 1997 (Act No. 101 of 1997), or any amendment thereof;

“residence hall” means a block with large numbers of individual or twin rooms, with shared bathrooms on each floor, and where in self-catering residences there are usually shared kitchen facilities;

“student village” means a number or a cluster of buildings on- or off-campus exclusively used to house the students of the university;

“universal design” means architectural design of a device, physical plant or workplace environment which is intended to be used by all, i.e. does not represent an impediment for persons with disabilities; and

"Vice-Chancellor" means the head/chief executive or accounting officer of a public higher education institution and includes a principal or a rector.

3. APPLICATION

The Policy is applicable to all public universities and privately owned accommodation accredited by public universities. These Norms and Standards should be incorporated into the criteria developed by each public university and stipulated in the university’s policy and rules. Private providers shall establish clear and comprehensive standard lease agreements after consultation with relevant University officials and student representatives. Universities should rate and differentiate off-campus student accommodation according to standards set by each University.

4. PHYSICAL INFRASTRUCTURE

The following Minimum Norms and Standards, including the standards contained in the room specification manual (appended to this Policy at Annexure A) must be applied to all new residence buildings. The refurbishment and rennovation of existing residences must aim to bring existing residence buildings in line with these minimum standards, with the exception of room size, within a reasonable and fair time period (see section 12 of this Policy).

4.1. Sites of residences

The site or location of student housing can have a profound impact upon access, equity and redress for students requiring housing as well as upon their academic success. In order to ensure equitable access to the academic facilities and support services of the university/campus, the following minimum standards are recommended:

a. the housing facility must preferably be situated within the campus security perimeter, thereby affording residents the freedom to make full use of the academic, social, cultural and sporting programs of the university without restriction or hindrance; and

b. should on-campus locations be unavailable, then student housing sites must be within a radius of no more than 20 kilometres of the campus. Plans for any newly planned university-owned or leased student residence that do not conform to the 20 kilometre radius must be submitted to the Department for approval. Affordable and secure transport running at regular intervals from early morning to late night must be provided for housing further than 5 kilometres from the campus. Such sites should be carefully selected with the safety, security and well-being of students in mind.

4.2. Design of residences

The following minimum design standards are applicable:

a. new residence designs must accommodate a maximum of two students per room;

b. single rooms must be no smaller than 8m², and double rooms must be no smaller than 14m². These room dimensions are applicable to the design of all new buildings from the date of publication of this Gazette, but are not applicable to existing stock;

c. dormitory/hall type residence buildings must comply with the following minimum standard and norms for ablution facilities:
   - wash basins – 1 basin per 4 student residents
   - shower cubicles – 1 shower cubicle per 7 student residents
   - lavatories – 1 lavatory per 5 student residents
   - shower and lavatory cubicles must be designed in such a way that individual privacy is provided (i.e., no communal showers or toilets)
   - telephones and/or alarm bells (depending on affordability to the university) must be placed in accessible and strategic locations, so that students with disabilities are not disadvantaged;

d. the following minimum **social spaces** should be provided:
   - large common/meeting rooms – a minimum of 1,5m^2 of communal space per student resident for the first 100 students and 1m^2 per student resident for numbers in excess of 100. Such communal space shall comprise a combination of some or all of the following: communal lounges, games rooms, gymnasia, television rooms, meeting/seminar rooms, dedicated group study spaces, computer centres, or other appropriate spaces
   - smaller TV/meeting rooms – at least 9m^2;

e. in terms of the provision of meals, residences are designed to be either self–catering or non-self-catering. In the case of non-self-catering residences the university must provide meals. In the case of self-catering residences, the following minimum food preparation standards must be provided in a separate kitchen(s):
   - suitable food storage, preparation and kitchen space shall be provided
   - stove – 1 four plate stove (with oven) per 8 students
   - cold storage – a minimum of a 320 litre capacity fridge / freezer combination is a the minimum requirement per 8 students
   - sink – 1 per 15 students
   - lockable cupboards – 1 per student
   - microwave oven – 1 per 15 students
   - countertop space – sufficient for 25% of the capacity of the student residents for simultaneous usage;

f. the most cost effective access to internet, as determined by the university, is required in all residences. It is preferable that all student rooms have access to the internet for study purposes. All communal spaces designed for study purposes in residences must have internet access; and

g. where self-catering facilities are provided for **students with disabilities**, universal design must include consideration of space to allow for independent movement of the student in the food preparation area and bathrooms. The positioning of all announcement features such as intercoms, telephones, counter loops and induction loop systems for those with hearing impairments, door handles, gates and warning signals must be considered to ensure universal design and barrier-free access to all pathways, entrances and doorways.

5. HEALTH AND SAFETY

All providers of student housing must comply with all of the legislative requirements (national, regional and municipal) regulating health and safety at *all* times.

Additional requirements pertinent to the provision of student housing are listed below. Certificates of compliance must be obtained from the relevant authority on an annual basis with regard to the following services:

a. fire safety, prevention and detection mechanisms and procedures;

b. electricity and gas installations;

c. security staff, mechanisms and procedures;

d. in any building used to accommodate students, *each* student room as well as the building itself must be secure;

e. internal monthly hygiene inspections of all University food preparation facilities, communal self-catering facilities and areas, and ablution facilities should be carried out in addition to annual municipal or equivalent hygiene audits. Audits entail a random sampling of facilities;

f. all ablution areas must be cleaned at least once daily using cleaning industry standard chemicals and products. Shower doors or curtains must be fitted to shower cubicles to ensure privacy;

g. a certificate of compliance with occupational health and safety regulations, and an evacuation diagram must be displayed on notice boards; and

h. universities must liaise with local enforcement agencies dealing with the safety of students.

6. FURNISHINGS AND FITTINGS

The minimum furnishings and fittings required for each room type or area within a student housing facility are detailed in the Room Specification Manual (see Annexure A). Furnishings and fittings must be maintained in a sound and working order, and must be replaced as soon as possible when broken beyond repair by the relevant University, landlord or agent. Appropriate, fair and adequate mechanisms for determining responsibility for damage and/or breakage to property must be established by the relevant authority at universities or landlord in the case of private residences.

7. CONSTRUCTION, REPAIRS AND MAINTENANCE

Any and all construction, repairs and maintenance to on-campus or off-campus accommodation must comply at all times with all relevant legislation, and must be carried out by appropriately qualified staff or contractors. The following additional requirements pertinent to the provision of student housing are listed below:

a. in the case of new buildings and/or refurbishment of existing buildings whether funded by the Department of Higher Education and Training (DHET) or not, the DHET may inspect such buildings after completion to satisfy itself that the buildings are fit-for-purpose, provide value for money, and comply with relevant legislation;

b. reasonable response times for emergency, urgent and routine repairs should be established after consultation with all stakeholders, and should be incorporated into a service level agreement;

c. any construction, maintenance or repairs must be carried out with minimum disruption to the academic programme and requirements of student residents, and with due regard for their safety and security;

d. areas surrounding residence buildings must be kept clear of refuse and litter; and

e. where construction of a student residence is done through a Public Private Partnership, universities are required to consult the DHET and obtain Ministerial approval before proceeding with the project.

8. STUDENT WELL-BEING AND SUPPORT

The University student housing must provide for adequate provision for access to medical and psychological services to cater for the well-being of student residents during work hours, and must ensure that emergency support is available after hours. This includes the provision of a first aid kit and instructions on the use thereof.

As part of the orientation process, the University must provide a list of accredited private student housing providers to students who have not been allocated a place in the University owned residence system.

9. STUDENT HOUSING GOVERNANCE AND MANAGEMENT

9.1. Governance of student housing

Each Council must create a designated committee to govern residence life on behalf of the Council of the University. The committee must be composed of equal numbers of University staff and residential students, and must be chaired by a senior official of the University. Membership of the committee must include University staff and student representatives from off-campus student housing units housing ten or more students. The committee must meet quarterly, and its minutes must be presented to Council.

9.2. Staffing levels

Residence staff to resident student ratios must be at least 1:150 in the case of wardens, house parents, residence managers or the equivalent, and 1:100 in the case of student sub-wardens or the equivalent. In addition, provision must also be made for dedicated administrative and facilities management personnel responsible for student housing. Universities must provide a breakdown of the staff responsible (structure) for residences in the university's annual report.

9.3. Professional development of student housing staff

Training as stipulated by the University must be provided by both universities and private housing providers to student housing staff at all levels. Such training must encompass at least emergency procedures. The ongoing professional development of student housing staff must be encouraged by both universities and private housing providers.

9.4. Policy, procedure and agreement

Universities must have clear and comprehensive documentation providing information about the nature of the housing available, the fee or rental rates (indicating clearly what is included in the rate as well as all terms and conditions), the rules and regulations, the management structure, the complaints procedure, and maintenance/repairs requisition procedures.

9.5. Student discipline

Universities are responsible for the discipline of students in University-owned or University-accredited rented housing. Suitable disciplinary codes and mechanisms must be developed and published for implementation in university-owned residences. Providers of accredited private student housing must consult and collaborate with their 'feeder' universities to establish agreed upon disciplinary codes and mechanisms.

9.6. Residence admissions and allocations policies

The Report indicated that in 2010 only 5.3% of new first year contact students were accommodated in University residences. The most vulnerable group of students are first year students. Therefore, all universities must develop strategies for increasing the percentage of residence places available for new first year students to at least 30% of the total residence capacity within ten years. In general, with respect to admission into and allocation of student housing, all universities must:

a. develop and implement a comprehensive residence admissions and allocations policy. The policy should be developed in consultation with relevant stakeholders. Accountability for the implementation of this policy should reside at senior management level;

b. strictly manage, control and monitor the fair allocation of students to residences and rooms in accordance with the approved residence admissions and allocations policy;

c. manage and administer waiting lists for residence vacancies in accordance with the residence admissions and allocations policy;

d. develop plans, strategies and mechanisms to increase access to university residences by poor, working class and rural students; and

e. develop sensitive support mechanisms for poor, working class and rural students which empower and enable them to participate fully in the academic, social and cultural life of the University.

10. FINANCIAL CONTROL AND MANAGEMENT OF STUDENT HOUSING

The following financial mechanisms and procedures must be implemented at all public universities which provide student housing:

a. the residence budget and management accounts shall be separated completely from the University budget and management accounts. The basis for future allocations on student housing infrastructure will be determined in line with the extent to which the University has met the above requirement;

b. quarterly residence management accounts shall be submitted to the University Council for scrutiny and evaluation;

c. the DHET will establish a standardised reporting framework for the presentation of the annual residence financial reports;

d. the DHET may undertake annual site visits to inspect student residences operated by universities; and

e. in relation to NSFAS housing funding restrictions, a recipient of NSFAS funding for housing may only be allowed to 'unbook' a maximum of 30% of meals which may be credited to the student's accounts; in other words, 70% of the boarding/meal funding component of the housing/accommodation grant must be used for meals.

11. COMPLIANCE WITH MINIMUM NORMS AND STANDARDS

a. The Department of Higher Education and Training is the custodian of this Policy, and will provide a consultative, facilitative and supportive service to universities in assisting them to attain their student housing targets and goals.

b. NSFAS-funded students may only be accommodated in housing which meets the minimum norms and standards requirements set out in this Policy. Responsibility for accrediting private student housing will be the responsibility of the 'feeder' University through which the NSFAS funding allocation is made.

c. The level of compliance with student housing minimum norms and standards is to be included in the univeristy's annual report.

12. PHASING IN OF MINIMUM NORMS AND STANDARDS

a. The council of each public university must submit approved plans and strategies for the phasing in of the minimum norms and standards in terms of its existing stock to the Department by June 2016. The university must stipulate the extent to which it has consulted with internal stakeholders on these plans. This is also applicable to off-campus student housing owned by the university.

b. Universities must comply with the governance and management standards elaborated in section 9 by December 2017, with the exception of the staff (9.2) and first year occupancy requirements (9.6), which may be phased in over 10 years.

c. In the case of existing university residence stock, a reasonable and fair period of time will be allowed to bring existing stock to a minimum standard in terms of the contents of rooms. Structural changes in terms of room sizes will not necessarily be required. What will be considered a reasonable and fair time period will depend on the circumstances of each individual university and be determined in consultation with the Department.

d. This Policy will apply in its entirety to any new planned residences, and while without any legal (contractual) or substantial financial implications, a university can still change the structure/plans/design of a residence to conform to this Policy when gazetted, the necessary changes should be effected.

e. Due to the shortage of housing and the importance of partnering with private providers, Universities will need to ensure that private housing meets the minimum norms and standards of this Policy before entering into an agreement with any private provider.

f. In the case of existing university accredited private residences, universities must ensure that these providers submit approved plans and strategies for the phasing in of the minimum norms and standards in terms of its existing stock to the university by June 2016. Failing which such providers should be deaccredited, in line with the university's policy.

ANNEXURE A: MINIMUM NORMS AND STANDANDARDS ROOM SPECIFICATION DATA

1. Single student room
2. Double student room
3. Principal Common Room
4. Minor Common Room
5. Student Study Area
6. Passages
7. Utility Area
8. Foyer
9. Guest Toilet
10. Kitchenettes
11. Ablutions
12. Laundry
13. Cleaner's Store
14. Box rooms
15. Linen Room
16. Water heating room
17. Hub/IT room
18. Grounds
19. Warden/Residence Manager's Flat
20. Warden/Residence Manager's Office
21. General

1. Single student room

A. Room Use: Bedroom
B. Area: 8m^2
C. Finishes:
    i. Walls: Plaster, painted
    ii. Floors: Durable lino/tiles/carpet
    iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
    i. Fitted/installed by contractor
        - CBD joinery
        - Curtain rail (double track)
        - Towel rail
        - Mirror

    ii. Furniture & Fittings
        - Bed
        - Mattress
        - Study table
        - Desk chair
        - Book shelf
        - Curtains
        - Study lamp (low energy)
        - Pin board (mounted)
        - Wastepaper bin
        - Bedside table

E. Services
    i. Mechanical
        - Wall mounted heater
        - Firefighting: Hosereel & extinguisher in passage
    ii. Electrical
        - Lighting: 100 lux
        - 15 Amp socket (x2)

    iii. Communication
        - Network: fibre-optic and/or wireless

F. Notes
    i. Bookshelf: If self-catering is allowed, the bookshelf must have a separate section to make provision for storage of 2 small pots and 1 pan.

ii. Cupboards: Built-in cupboards with sufficient hanging space and shelf space. A separate built-in cupboard for groceries is to be provided if self-catering facilities are available.
iii. Windows: Bedroom windows on ground floor and other vulnerable windows must be fitted with burglar bars.

2. Double student room

A. Room Use: Bedroom
B. Area: 14m^2
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors:Durable lino/tiles/carpet
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - CBD joinery
      - Curtain rail (double track)
      - Towel rail (x2)
      - Mirror (x2)
      - Privacy partition/curtain

   ii. Furniture & Fittings
      - Bed (x2)
      - Mattress (x2)
      - Study table (x2)
      - Desk Chair (x2)
      - Book shelf (x2)
      - Curtains
      - Study lamp (low energy) (x2)
      - Pin board (mounted) (x2)
      - Wastepaper bin (x2)
      - Bedside table (x2)

E. Services
   i. Mechanical
      - Wall mounted heater (x2)
      - Firefighting: Hosereel & extinguisher in passage

   ii. Electrical
      - Lighting: 100 lux (x2)
      - 15 Amp socket (x4)

iii. Communication
- Network: fibre-optic (x2) and/or wireless

F. Notes
i. Bookshelf: If self-catering is allowed, the bookshelf must have a separate section to make provision for storage of 2 small pots and 1 pan.
ii. Cupboards: Built-in cupboards with sufficient hanging space and shelf space. A separate built-in cupboard is to be provided if self-catering is available.
iii. Windows: Bedroom windows on ground floor and other vulnerable windows must be fitted with burglar bars.

3. Common Room (Principal)

A. Room Use: Recreation/meeting
B. Area: refer to section 4.2d of this Policy
C. Finishes:

i. Walls: Plaster, painted
ii. Floors: Durable lino/tiles/carpet
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
i. Fitted/installed by contractor
- TV shelf/bracket
- Curtain track (double)
- AV equipment cupboard (theft proofed)

ii. Furniture & Fittings
- Tub/easy chairs (1/2 bed capacity)
- Plastic stacking chairs (1/4 bed capacity)
- Curtains
- Rubbish bin (large)
- DVD player
- TV (theft-proof bracket)

E. Services
i. Mechanical
- Wall mounted heater (x2)
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

ii. Electrical

- Lighting: 200 lux (x2)
- 15 Amp socket (x4)

iii. Communication
- Network: fibre-optic (x2) and/or wireless

F. Notes
i. Windows: Windows on ground floor and other vulnerable windows must be fitted with burglar bars.

4. Common Room (Minor)

A. Room Use: Recreation/meeting
B. Area: at least $9m^2$
C. Finishes:
i. Walls: Plaster, painted
ii. Floors:Durable lino/tiles/carpet
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
i. Fitted/installed by contractor
- TV shelf/bracket
- Curtain track (double)
- AV equipment cupboard (theft proofed)

ii. Furniture & Fittings
- Tub/easy chairs (1/4 bed capacity)
- Curtains
- Rubbish bin (large)
- DVD player
- TV (theft-proof bracket)

E. Services
i. Mechanical
- Wall mounted heater (x2)
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

ii. Electrical
- Lighting: 200 lux (x2)
- 15 Amp socket (x4)

iii. Communication
- Network: fibre-optic (x2) and/or wireless

F. Notes
   i. Windows: Windows on ground floor and other vulnerable windows must be fitted with burglar bars.
   ii. Additional security: This smaller common room should be made secure (security gates & burglar guards) so that it can be used as a storage/box room during vacations.

5. Student Study Area

A. Room Use: Student study area
B. Area: 0,1m^2 per bed capacity
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors:Durable lino/tiles/carpet
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Curtain track (double)
      - Whiteboard

   ii. Furniture & Fittings
      - Study tables
      - Desk chairs

E. Services
   i. Mechanical
      - Wall mounted heater
      - Firefighting: Hosereel & extinguisher in passage
      - Smoke detector

   ii. Electrical
      - Lighting: 500 lux
      - 15 Amp socket (x4)

   iii. Communication
      - Network: fibre-optic (x2) and/or wireless

6. Passages

A. Use: Passage
B. Area: As per design
C. Finishes:

i. Walls: Plaster, painted
ii. Floors: Durable lino/tiles/carpet
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment

i. Fitted/installed by contractor
- Statutory fire equipment & signage (exit & fire)

ii. Furniture & Fittings
- Noticeboards (where applicable)

E. Services
i. Mechanical
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

ii. Electrical
- Lighting: 100 lux
- 15 Amp socket (x2)

iii. Communication
- Intercom system linked to front entrance

F. Notes
i. Passage lights on time-delay motion sensor switch

7. Utility Area

A. Room Use: General Utility Area
B. Area: As per design
C. Finishes:

i. Walls: Plaster, painted
ii. Floors:Durable lino/tiles/carpet
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - CBD joinery

   ii. Furniture & Fittings
      - Waste bins (x3)
      - Fridge (1 per floor)
      - Vacuum cleaner
      - Broom
      - Dustpan & handbrush

E. Services
   ii. Mechanical
      - Firefighting: Hosereel & extinguisher in passage
      - Smoke detector

   iii. Electrical
      - General
      - 15 Amp socket

8. Foyer

A. Room Use: Entrance
B. Area: As per design
C. Finishes:

   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles/carpet
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment

   i. Fitted/installed by contractor
      - Recessed floor mats
      - Statutory fire equipment & signage (exit & fire)

   ii. Furniture & Fittings
      - Noticeboards (where applicable)
      - Rubbish bin
      - Table

E. Services
   i. Mechanical/Security
      - Firefighting: Hosereel & extinguisher in passage

- Smoke detector
- CCTV
- Biometric access control
- Door alarm
- Fire alarm control box

ii. Electrical
- Lighting: 200 lux
- 15 Amp socket

iii. Communication
- Intercom system linked to each passage

F. Notes
i. Biometric access control system, magnetic locks and door alarm to be integrated in door design/installation. Access control to be easily accessible to wheelchairs.

9. Guest toilet

A. Use: Passage
B. Area: 2 ASM
C. Finishes:
i. Walls: Plaster, painted
ii. Floors: Durable lino/tiles/carpet
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
i. Fitted/installed by contractor
- Statutory fire equipment & signage (exit & fire)

ii. Furniture & Fittings
- Noticeboards (where applicable)

E. Services
i. Mechanical
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

ii. Electrical
- Lighting: 100 lux
- 15 Amp socket (x2)

iii. Communication

- Intercom system linked to front entrance

F. Notes
   i. Passage lights on time-delay motion sensor switch

10. Kitchenettes in non-self-catering student housing

NB: These specifications are for kitchenettes in residences where catering is provided to the student residents and must not be used for self-catering residences. Food preparation area specifications for self-catering residences are to be found in section 4.2 e of this Policy.

A. Use: Kitchen
B. Area: 8.2 ASM
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Single bowl sink with drain
      - Counter top with 2 door cupboard beneath
      - Towel rail
      - Fire extinguisher

   ii. Furniture & Fittings
      - Fridge 325l
      - Microwave 26l
      - Flip top bin large
      - Urn 20l

E. Services
   i. Mechanical
      - Firefighting: Hosereel & extinguisher in passage
      - Smoke detector

   ii. Electrical
      - Lighting: 200 lux
      - 15 Amp socket (x2)

F. Notes
   i. Lights on time-delay motion sensor switch
   ii. Hatch to large common room.

11. Ablutions

A. Use: Ablution facilities
B. Area: Size driven by ratios below

C. Finishes:

i. Walls: Tiles to ceiling
ii. Floors: Non-slip tiles
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Shower rail 2/shower
      - Wash basin 1/4 students
      - Shower cubicle 1/7 students
      - Robe hook per cubicle 1/cubicle
      - Mirror 300x400 1/wash basin
      - Soap dish 1/cubicle

   ii. Furniture & Fittings
      - Shower curtains 2/cubicle

E. Services
   i. Mechanical
      - Mechanical extract

   ii. Electrical
      - Lighting: 200 lux
      - 15 Amp socket

F. Notes
   i. Lights on time-delay motion sensor switch
   ii. Fall from door to showers
   iii. Ablution per passage
   iv. Paraplegic toilet/shower in ablution at entry wing
   v. Shower cubicle to have dry/wet zone

12. Laundry

A. Room Use: Laundry 1/40 students
B. Finishes:
   i. Walls: Plaster, painted

ii. Floors: Durable lino/tiles
iii. Ceiling: Plastered concrete or ceiling board

C. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Double trough
      - Fixed ironing board
      - Shelving 300x1500

   ii. Furniture & Fittings
      - Industrial tumble dryer 1/25 students
      - Industrial washing machine 1/25 students
      - Clothes horse

D. Services
   i. Mechanical
      - Mechnical extract

   ii. Electrical
      - Lighting: 200 lux
      - 15 Amp socket (x2 double)

E. Notes
   i. Lights on time-delay motion sensor switch
   ii. Floor tiles laid to fall with floor drain
   iii. Dryer Direct Expel through outer wall
   iv. Preferably one laundry per floor
   v. Window on external wall preferable
   vi. Sufficient power points for washing machines, tumble dryers & student iron

13. Cleaner's store

A. Room Use: Cleaner's store
B. Area: 2 ASM
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Shelves 300x1000 (x3)
E. Services
   i. Electrical

- Lighting: 160 lux
- 15 Amp socket

F. Notes
   i. One cleaner's cupboard per cleaner
   ii. No service ducts to pass through room

14. Box room

A. Room Use: Storage
B. Area: ASM 0.15 m^2/student
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      - Slatted shelving (3 rows)
      - Security gate

   ii. Furniture & Fittings
      - Noticeboards (where applicable)

E. Services
   i. Mechanical
      - Firefighting: Hosereel & extinguisher in passage

   ii. Electrical
      - Lighting: 200 lux
      - 15 Amp socket

F. Notes
   i. Small common room doubles as a box room during vacations.
   ii. Solid door
   iii. 1 trunk per student
   iv. Ventilation louvre
   v. Air bricks
   vi. Burglar bars on window; but preferably no window

15. Linen room (if applicable)

A. Room Use: Linen storage

B. Area: ASM 0.15m^2/student
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      • Slatted shelving

E. Services
   i. Mechanical
      • Firefighting: Hosereel & extinguisher in passage
      • Smoke detector

   ii. Electrical
      • Lighting: 200 lux
      • 15 Amp socket

F. Notes
   i. Adequate space for laundry collection & distribution
   ii. Adequate ventilation
   iii. Ventilation louver
   iv. Air bricks
   v. Stable door with service flap

16. Water heating room

A. Room Use: Water heating
B. Area: ASM 0.12m^2/student
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Screed
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   i. Fitted/installed by contractor
      • Preferably heat pumps with boiler backup.

E. Services
   i. Mechanical
      • Adequate water supply
      • Fire extinguisher

ii. Electrical
- Lighting: 200 lux
- 15 Amp socket (x2)

F. Notes
i. Low energy heating units to be explored

17. Hub/IT room (if

A. Room Use: IT equiment space
B. Area: ASM 0.03m^2/student
C. Finishes:
i. Walls: Plaster, painted
ii. Floors: Durable lino/tiles
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
i. Fitted/installed by contractor
- Equipment as per IT&S Division specifications

E. Services
iii. Mechanical
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

iv. Electrical
- Lighting: 250 lux
- 15 Amp socket (x3)

F. Notes
i. Adequate ventilation – riser duct to roof space
ii. Reinforced louvre in door

18. Grounds

A. Use: Recreation & access
B. Area: Reasonable space for social and recreation purposes
C. Fittings, furniture & equipment
i. Fitted/installed by contractor
ii. Furniture & Fittings

D. Services
i. Mechanical
- Garden tap

- Fire Hydrants

ii. Electrical
- Security and accent lighting
- 15 Amp socket (x2)

E. Notes
i. Landscaping should include a flat lawned area sufficient for a volleyball court
ii. Parking provision – 1bay/20 students
iii. Service vehicles access to front door should be no greater than 20m

19. Warden/residence manager's flat

A. Facility Use: Accommodation for warden/res manager and family
B. Area: 2/3 bedroomed flat which includes lounge/dining room, kitchen, bathroom and guest bathroom/toilet.
C. Finishes:
i. Walls: Plaster, painted
ii. Floors: Durable lino/tiles
iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
i. Fitted/installed by contractor
- Determined by each institution

ii. Furniture & Fittings
- Determined by each institution

E. Services
i. Mechanical
- Firefighting: Hosereel & extinguisher in passage
- Smoke detector

ii. Electrical
- Lighting: min 100 lux per room
- Sufficient 15 Amp sockets per room

iii. Communication
- External line telephone
- Wireless and/or fibre optic network access

F. Notes
i. Separate 200l geyser (NOT supplied from residence)
ii. Lock up garage adjacent to flat
iii. Small enclosed garden where possible with drying yard & clothes-line

20. Warden/Residence Manager's office

A. Room Use: Study/office
B. Area: Sufficient to interview 2/3 students simultaneously
C. Finishes:
   i. Walls: Plaster, painted
   ii. Floors: Durable lino/tiles
   iii. Ceiling: Plastered concrete or ceiling board

D. Fittings, furniture & equipment
   iii. Fitted/installed by contractor
      - Door bell
      - Double curtain rail
   iv. Furniture & Fittings
      - Curtains/blinds
      - Office desk
      - Office chair
      - Filing cabinet
      - Visitors chairs (x2)
      - Wall safe
      - First Aid box
      - Door pin board
      - Wall pin board
      - Bookcase (3 tier)

E. Services
   i. Mechanical
      - Firefighting: Hosereel & extinguisher in passage
      - Smoke detector
   ii. Electrical
      - Lighting: 200 lux
      - 15 Amp socket (x2)
   iii. Communication
      - Telephone extension
      - Wireless and/or fibre-optic network connection

21. General

a. Residence name to be prominently located at front entrance
b. Statutory safety signage to be fitted throughout
c. One fridge per floor, but not less than one fridge/30 students (catering provided)
d. Front entrance and facilities to be wheelchair accessible
e. Adequate fire alarm system to be fitted
f. Fire safety doors to be fitted to all fire escapes
g. Rain water tanks should be provided in easily accessible places.

TOTAL ALL BUILDINGS: AREA SCHEDULE

	ROOM NAME:	NUMBER	AREA (m²)
	ENTRANCES	2	60.9
	SECURITY ROOMS	2	29.82
	STORE ROOMS	48	195.36
	MAINTENANCE AREAS	4	59.64
	SINGLE ROOMS	94	705
	DOUBLE ROOMS	322	4347
	ROOMS FOR DISABLED	4	54
	SUB-WARDEN	8	108
	WARDEN RESIDENCE	2	141.52
	KITCHEN AREAS	30	1189.6
	STUDY AREAS	16	169.32
	LAUNDRY AREAS	14	348.88
	COMMON AREAS	34	1103.56
	GUEST TOILET	8	18.14
	ABLUTION AREAS	38	1318.22
	TOTAL STUDENTS	750	
	GROSS BUILDING AREA	14 673.62 m²	

Accommodation Schedule

Campus	Students	
Cape Peninsula University of Technology_ Bellville		750
	Self catering	750
	Non-self catering	

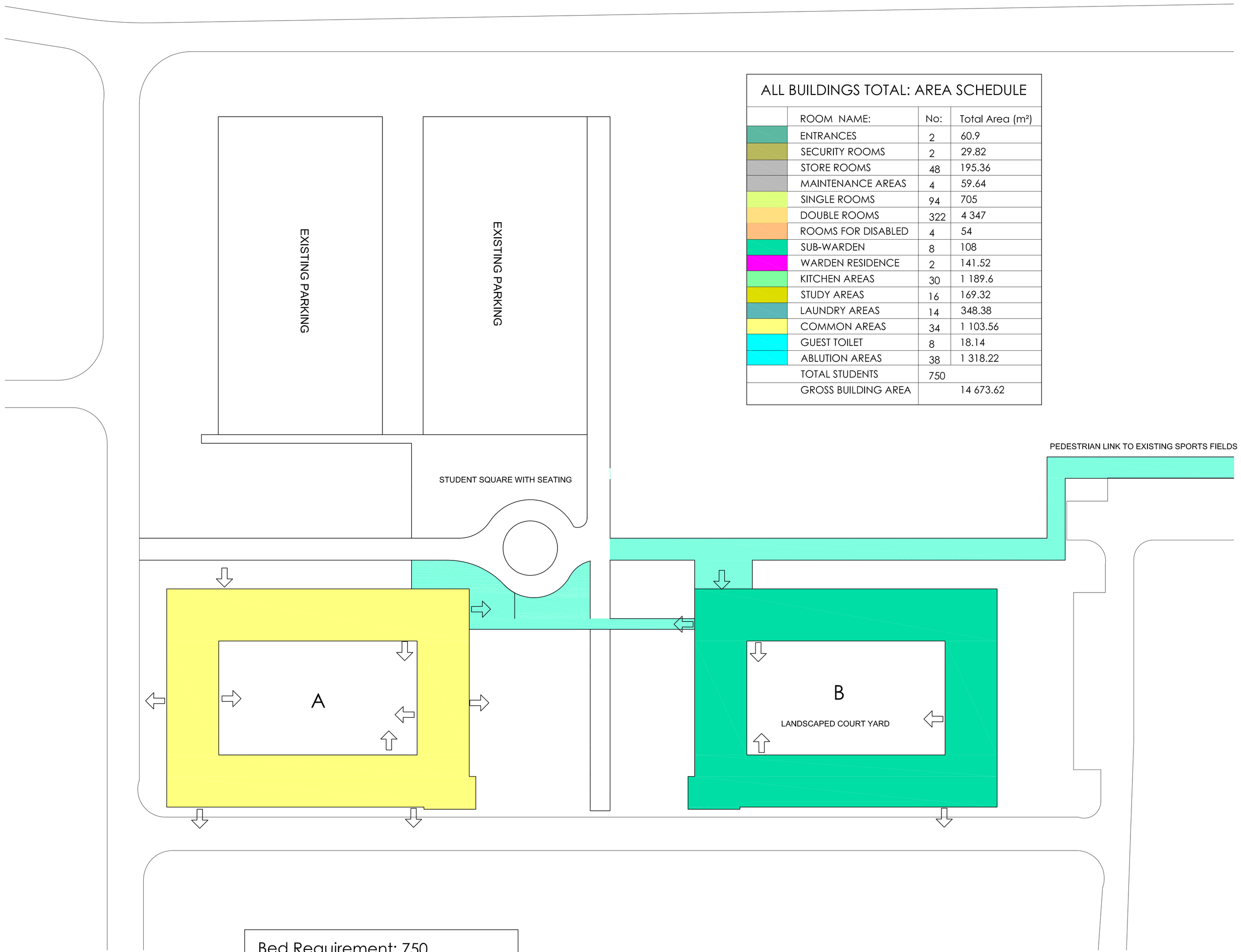
Totals

As per drawings:

94	Single Rooms
328	Double Rooms

Gross building area: 14 673.62 m²

Amount	Accommodation	Min Size (m²)	Total (m²)
2	Main entrance		60.9
2	Security (A space that directly serves the occupants regarding their security needs)		29.82
2	Warden residence (The warden residence shall have at least two bedrooms, a study and a guest toilet and an ASM of not less than 70 m²)	70	140
8	Sub-warden (1 per 100 students, ASM of at least 13,5m²)	13.5	108
2	Warden office (1 per 300 students, min ASM of 10m² per office)	Included in Residence	-
	Toilet and shower areas		1318.22
8	Guest toilet (1 per 150 students, Non-assignable)		18.14
30	Kitchen area (Food preparation spaces of sufficient area with a minimum ASM of 8,2 m²)		1099.6
16	Student study areas		177.06
16	Common rooms (1,5m² per student resident for the first 100 students; 1,0m² per student resident for numbers in excess of 100. For recreation and meeting, which may be combined with other spaces. These social spaces may be reduced to 0,5 m2 per bed where such facilities are provided by the institution within 750 m from the main entrance to the building accommodating student housing.)	800	1105.18
	Parking		
Total area specified			**4056.92**



ALL BUILDINGS TOTAL: AREA SCHEDULE

	ROOM NAME:	No:	Total Area (m²)
	ENTRANCES	2	60.9
	SECURITY ROOMS	2	29.82
	STORE ROOMS	48	195.36
	MAINTENANCE AREAS	4	59.64
	SINGLE ROOMS	94	705
	DOUBLE ROOMS	322	4 347
	ROOMS FOR DISABLED	4	54
	SUB-WARDEN	8	108
	WARDEN RESIDENCE	2	141.52
	KITCHEN AREAS	30	1 189.6
	STUDY AREAS	16	169.32
	LAUNDRY AREAS	14	348.38
	COMMON AREAS	34	1 103.56
	GUEST TOILET	8	18.14
	ABLUTION AREAS	38	1 318.22
	TOTAL STUDENTS	750	
	GROSS BUILDING AREA		14 673.62

N

BELLVILLE:
SITE DEVELOPMENT PLAN

Bed Requirement: 750
Beds Provided: 750
Single Bedrooms: 94
Double Bedrooms: 322
Gross Building Area: 14 673.62 m²
Site Area: 1.0 ha

Both buildings have 4 floors

REVISION

NO	DATE	DESCRIPTION

CLIENT

DHET AND CPUT

APPROVED	SIGNATURE	DATE

ARCHITECTURE | DESIGN | INNOVATION
THE CREATIVE AXIS ARCHITECTS

ARCHITECT	SACAP No.	SIGNATURE

SKETCH PLANS

PROJECT

STUDENT HOUSING
INFRASTRUCTURE PROGRAMME
CAPE PENINSULA UNIVERSITY
OF TECHNOLOGY

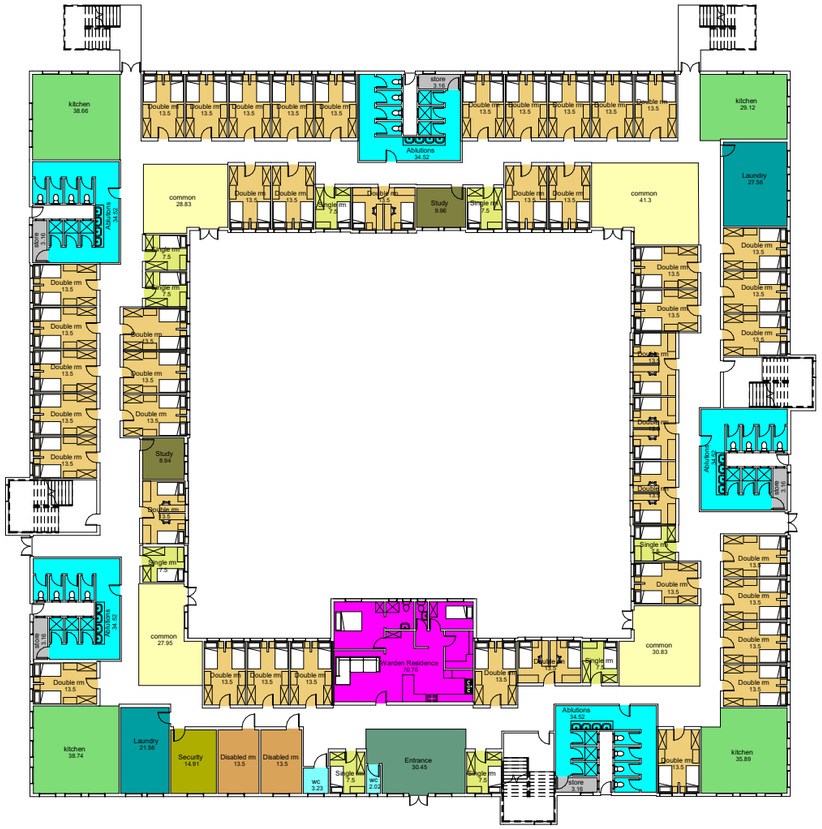
DRAWING

BELLVILLE: SITE
DEVELOPMENT PLAN

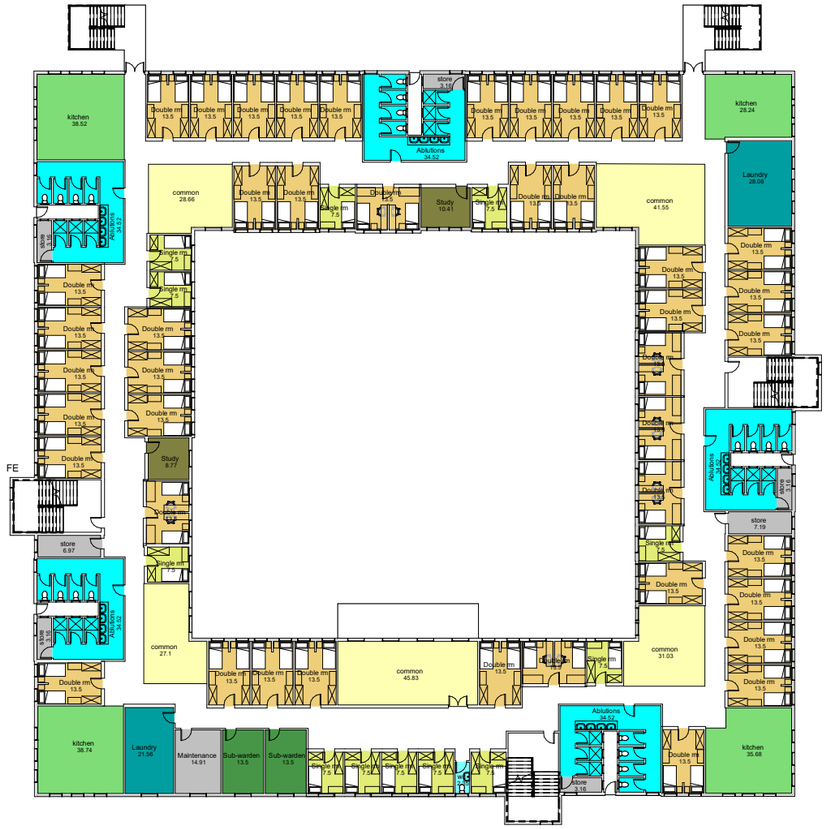
SCALE	DATE	DRAWN	CHECKED
1 : 500	Aug 2021	V. Laubscher	B. Ranchod

PROJECT NUMBER SHIP 5192

DRAWING NUMBER 100 REVISION B



1 GROUND FLOOR PLAN
1 : 200



2 01-FIRST FLOOR
1 : 200

BUILDING A GROUND: AREA SCHEDULE			
	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	1	30.45
	SECURITY ROOMS	1	14.91
	STORE ROOMS	5	15.80
	MAINTENANCE AREAS	0	0
	SINGLE ROOMS	9	67,50
	DOUBLE ROOMS	44	594
	ROOMS FOR DISABLED	2	27
	SUB-WARDEN	0	0
	WARDEN RESIDENCE	1	70,76
	KITCHEN AREAS	4	145,94
	STUDY AREAS	2	18,9
	LAUNDRY AREAS	2	50,85
	COMMON AREAS	4	128,91
	GUEST TOILETS	1	2,02
	ABLUTION AREAS	6	175,83
	TOTAL STUDENTS	99	
	GROSS BUILDING AREA	2019,45m²	

BUILDING A FIRST FLOOR : AREA SCHEDULE			
	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	0	0
	SECURITY ROOMS	0	0
	STORE ROOMS	7	29,96
	MAINTENANCE AREAS	1	14,91
	SINGLE ROOMS	12	90
	DOUBLE ROOMS	44	594
	ROOMS FOR DISABLED	0	0
	SUB-WARDEN	2	27
	WARDEN RESIDENCE	0	0
	KITCHEN AREAS	4	144,72
	STUDY AREAS	2	18,73
	LAUNDRY AREAS	2	50,89
	COMMON AREAS	5	174,07
	GUEST TOILETS	1	2,35
	ABLUTION AREAS	5	172,60
	TOTAL STUDENTS	102	
	GROSS BUILDING AREA	1993,26 m²	

NO	REVISION	DATE
A	Updated Sketch plans	21-07-2021
B	updated comments	22-07-2021
C	updated comments	03-08-2021

CLIENT
DHET and CPUT

APPROVED | SIGNATURE | DATE

ARCHITECTURE | DESIGN | INNOVATION
THE CREATIVE AXIS ARCHITECTS

ARCHITECT | SACAP No. | SIGNATURE

SKETCH PLANS

PROJECT
CPUT BELLVILLE CAMPUS STUDENT RESIDENTIAL

DRAWING
GROUND & FIRST FLOOR PLAN

SCALE	DATE	DRAWN	CHECKED
As indicated	July 2021	JD	B.Ranchod

PROJECT NUMBER **SHIP 5192**

DRAWING NUMBER **101**

REVISION C

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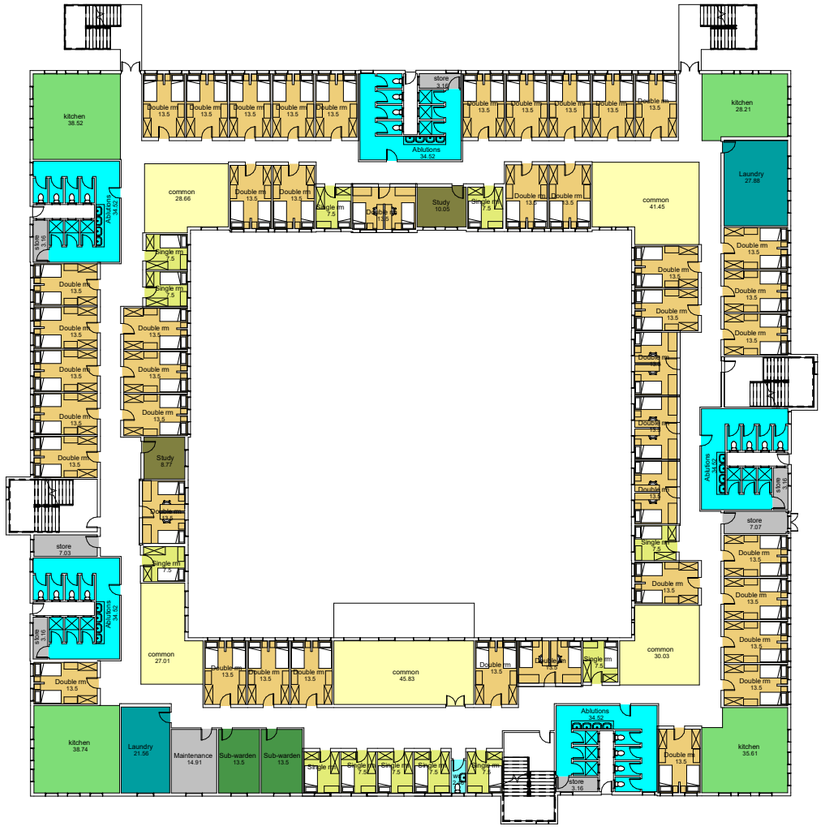
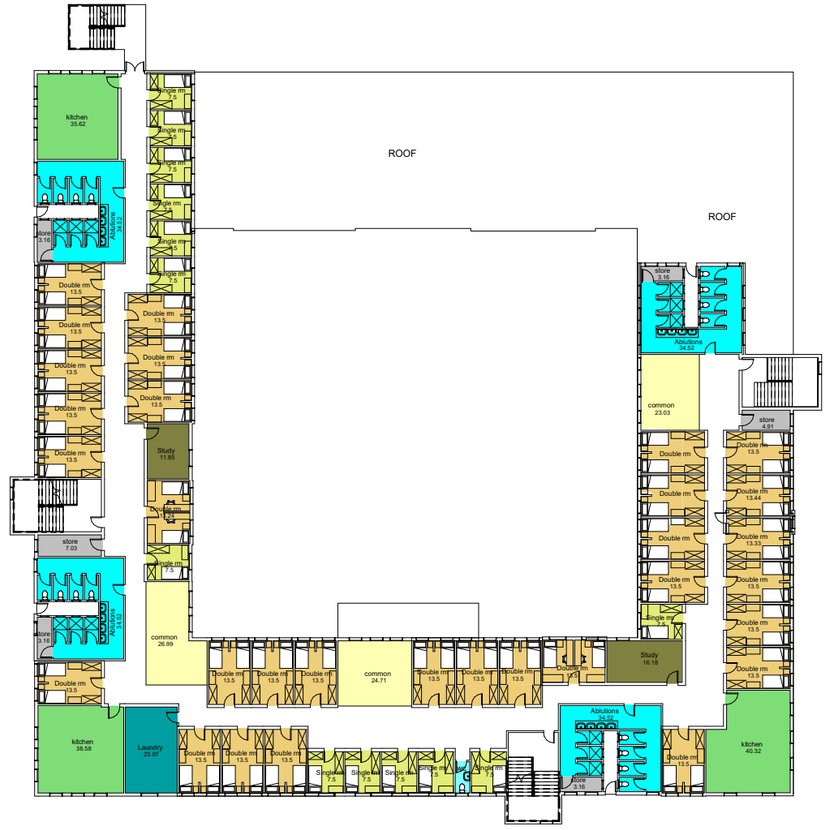


1 02-SECOND FLOOR
1 : 200



2 03- THIRD FLOOR
1 : 200

BUILDING A SECOND FLOOR AREA SCHEDULE

	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	0	0
	SECURITY ROOMS	0	0
	STORE ROOMS	7	29,96
	MAINTENANCE AREAS	1	14,91
	SINGLE ROOMS	12	90
	DOUBLE ROOMS	44	594
	ROOMS FOR DISABLED	0	0
	SUB-WARDEN	2	27
	WARDEN RESIDENCE	0	0
	KITCHEN AREAS	4	144,72
	STUDY AREAS	2	18,73
	LAUNDRY AREAS	2	50,89
	COMMON AREAS	5	174,07
	GUEST TOILETS	1	2,35
	ABLUTION AREAS	5	172,60
	TOTAL STUDENTS	102	
	GROSS BUILDING AREA	1993,26 m²	

BUILDING A THIRD FLOOR : AREA SCHEDULE

	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	0	0
	SECURITY ROOMS	0	0
	STORE ROOMS	5	21,96
	MAINTENANCE AREAS	0	0
	SINGLE ROOMS	13	97,5
	DOUBLE ROOMS	31	418,5
	ROOMS FOR DISABLED	0	0
	SUB-WARDEN	0	0
	WARDEN RESIDENCE	0	0
	KITCHEN AREAS	3	114,42
	STUDY AREAS	2	28,03
	LAUNDRY AREAS	1	21,56
	COMMON AREAS	3	74,73
	GUEST TOILETS	1	2,35
	ABLUTION AREAS	4	138,08
	TOTAL STUDENTS	75	
	GROSS BUILDING AREA	1330,84 m²	

BUILDING A TOTAL : AREA SCHEDULE

	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	1	30,45
	SECURITY ROOMS	1	14,91
	STORE ROOMS	24	97,68
	MAINTENANCE AREAS	2	29,82
	SINGLE ROOMS	47	352,5
	DOUBLE ROOMS	164	2214
	ROOMS FOR DISABLED	2	27
	SUB-WARDEN	4	54
	WARDEN RESIDENCE	1	70,76
	KITCHEN AREAS	15	549,8
	STUDY AREAS	8	84,66
	LAUNDRY AREAS	7	174,19
	COMMON AREAS	17	551,78
	GUEST TOILETS	4	9,07
	ABLUTION AREAS	19	659,11
	TOTAL STUDENTS	375	
	GROSS BUILDING AREA	7336,81 m²	

TOTAL : AREA SCHEDULE

	ROOM NAME	NO	Total Area (m²)
	ENTRANCES	2	60,9
	SECURITY ROOMS	2	29,82
	STORE ROOMS	48	195,36
	MAINTENANCE AREAS	4	59,64
	SINGLE ROOMS	94	705
	DOUBLE ROOMS	328	4428
	ROOMS FOR DISABLED	4	54
	SUB-WARDEN	8	108
	WARDEN RESIDENCE	2	141,52
	KITCHEN AREAS	30	1189,6
	STUDY AREAS	16	169,32
	LAUNDRY AREAS	14	348,38
	COMMON AREAS	34	1103,56
	GUEST TOILETS	8	18,14
	ABLUTION AREAS	38	1318,22
	TOTAL STUDENTS	750	
	GROSS BUILDING AREA	14 673,62 m²	

NO	REVISION	DATE
A	Updated Sketch plans	21-07-2021
B	updated comments	03-08-2021

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CLIENT
DHET and CPUT

APPROVED | SIGNATURE | DATE

ARCHITECTURE | DESIGN | INNOVATION
THE CREATIVE AXIS ARCHITECTS

ARCHITECT | SACAP No. | SIGNATURE

SKETCH PLANS

PROJECT
CPUT BELLVILLE CAMPUS STUDENT RESIDENTIAL

DRAWING
SECOND & THIRD FLOOR PLAN

SCALE	DATE	DRAWN	CHECKED
As indicated	July 2021	JD	B.Ranchod

PROJECT NUMBER **SHIP 5192**

DRAWING NUMBER **102**

REVISION B