



National Department of Public Works & Infrastructure

SKETCH PLAN COMMITTEE MANUAL

Acceptance of the Sketch Plan submitted to the Sketch Plan Committee will normally imply that the architects have completed stage 3 of their appointment, and engineers their preliminary design report stage.

VERSION 11.1

June 2022

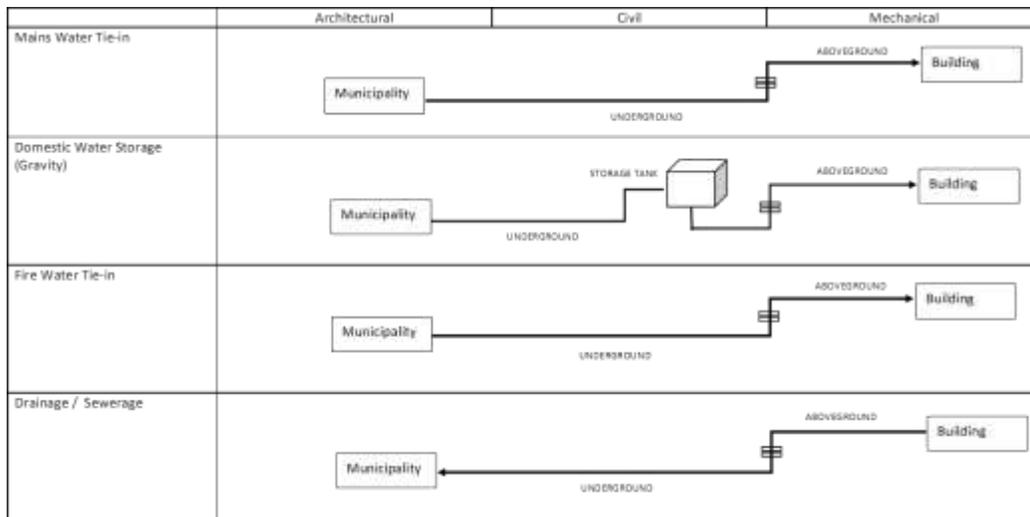
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1. Definitions

In this Manual, unless the context indicates otherwise —

- 1.1 **ACCESSIBILITY/ UNIVERSAL DESIGN** means the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.
- 1.2 **ARCHITECT** means an architect professionally registered as per South African Architectural Professions Act, 2000 (Act No. 40 of 2000) and related categories as indicated in the Tender document.
- 1.3 **BATTERY LIMIT** means one or more physical boundaries, with respect to a building being engineered, established for the purpose of identifying each discipline’s scope of work. The table below is indicative of the usual battery limits that would be established, but always bearing in mind that the contingencies of the project may require changes on occasion, that would involve the Architect / Project Manager consulting and agreeing upfront with the affected disciplines, changes that may be necessary to the battery limits



- 1.4 **CLIENT/ CLIENT DEPARTMENT** means all the Central Government Departments on whose behalf the DPWI may erect buildings, refurbish and repair and renovate buildings for their operational needs
- 1.5 **DPWI** means the Department of Public Works and Infrastructure/ PMTE (Property Management Trading Entity) who will be responsible for the appointment of consultants and the consultant team will receive their instructions from the departmental Project Manager
- 1.6 **DPWI PM** means the Department of Public Works and Infrastructure Project Manager appointed to manage the project in terms of time, cost, quality and BEE and who will issue instructions to the consultant team on behalf of the Department
- 1.7 **EIA** means the Environmental Impact Assessment document compiled in terms of the relevant legislation
- 1.8 **HIA** means the Heritage Impact Assessment document compiled in terms of the relevant legislation, being Act 25 of 1999. This act binds the State
- 1.9 **HO** means DPWI Head Office
- 1.10 **LA** Landscape Architect professionally registered as per South African Landscape Architectural Professions Act (Act Nr 45 of 2000)
- 1.11 **LDP** means the Landscape Development Plan that documents the landscape design development design in the format as stipulated herein after
- 1.12 **LDR** means the Landscape Development Report that documents the motivational study to the landscape design development design as stipulated under the landscape architectural requirements

- 1.13 **NBR** means the National Building Regulations promulgated and updated from time to time under the National Building Regulations and Building Standards Act, 103 of 1977 as amended from time to time
- 1.14 **PA** means the Principal Agent that will act as the lead consultant appointed to coordinate the development and integration of the design by the consultant team in terms of the brief supplied and appointment conditions. When a consultant Project Manager is appointed he/she will be responsible to execute all duties referring to the Principal Agent in the document
- 1.15 **PHRA** means Provincial Heritage Resources Authority
- 1.16 **RAMP** means the Repair and Maintenance Projects
- 1.17 **RO** means DPWI Regional Office
- 1.18 **SAHRA** means the South African Heritage Resources Agency which is the National Heritage Authority.
- 1.19 **SANS** means South African National Standards
- 1.20 **SKETCH PLANS** means design documentation prepared for approval of stage 3 of the architect's or preliminary design stage of the engineer's appointment
- 1.21 **SP COMMITTEE** (Sketch Plan Committee) means the Sketch Plan Committee (Head Office or Regional Office) formed departmentally by the various professional levels of expertise required for the project
- 1.22 **SPCM** means the Sketch Plan Committee Meeting held by the Sketch Plan Committee for scrutiny of the SPs in terms of the DPWI project management delegations of as amended from time to time

1.23 **UDM** means User Demand Management (UDM) in PMTE (Property Management Trading Entity) that will be the main line of communication with the Client Department (previously KAM)

1.24 **PROJECT DESCRIPTION**

The following descriptions will apply when referencing the types of projects:

- (a) **RECONFIGURATION** means the implementation of activities to make changes to the configuration of an immovable asset and thereby changing the functionality of the asset. (E.g. make changes to internal walls of a building to develop open plan offices). Reconfiguration cannot be classified as maintenance as it comprised changes requested by an user to increase the functionality of the asset to contribute towards the achievement of service delivery objectives. A user initiates reconfiguration, whereas a custodian initiates maintenance.
- (b) **RENOVATION** means comprehensive Capital works actions intended to bring an immovable asset back to its original appearance. Renovation work does not necessarily extend functionality or the life of the asses, but are necessary for the planned life to be achieved. The capital value is not affected.
- (c) **REFURBISHMENT** means a comprehensive Capital works actions intended to bring the immovable asset back to its original appearance or state or to extend its lifecycle. It may also be required for historical preservation. Refurbishment generally takes place at the end of an asset's lifecycle to extend the lifecycle and gain further income potential of the asset.
- (d) **UPGRADE** means a comprehensive Capital works that increases the value of the asset and could include extending the building in use. Upgrades can take place at any time through the lifecycle of the asset and will increase the income potential of the asset.

- (e) **MAINTENANCE** is defined as work carried out at a certain frequency to sustain functionality of the asset or prevent breakdown. Maintenance means all work on existing buildings that is undertaken to:
- (i) Prevent deterioration and failure
 - (ii) Recover the building from structural and service failure; and
 - (iii) Partial equivalent replacement of components of the building
 - (iv) Maintenance excludes:
 - (v) Improvements and upgrading to meet new service capacity of functions
 - (vi) Refurbishment to new condition to extend the capacity or useful life of the building
 - (vii) Capital replacement of major components to extend the capacity of useful life of the building
 - (viii) Upgrading to meet new statutory requirements
 - (ix) Operational tasks to enable occupancy use (eg. Cleaning, security, waste removal)
 - (x) Supply of utilities (energy, water and telecommunication)
 - (xi) Construction of new assets; and
 - (xii) Major restoration as a result of natural and other disasters.
- (f) **REPAIRS** entail the restoration of assets to its original condition.
- (g) **REHABILITATION** include, but is not limited to, repairs, renovations, replacements or alternations which are intended to:
- (i) Extend the useful life of an asset
 - (ii) Improve operating efficiency
 - (iii) Eliminate health and safety hazards
 - (iv) Correct structural or mechanical defects
 - (v) Upgrade existing assets
 - (vi) Change assets to more useful functions

2. Introduction

- 2.1 This Sketch Plan Committee Manual has been prepared to inform departmental Project Managers (DPWI PM), Principal Agents (PA) and the Consultant Teams, about the development and submission processes of Sketch Plan documentation (SP documentation) to the Sketch Plan Committee (SPC) for acceptance. The various disciplines' consultant manuals must also be consulted
- 2.2 This manual mainly covers the following:
- (a) Request for allocation of Professional Services officials to advise on specific projects
 - (b) Interaction between Professional Services officials, DPWI PM and the Consultant Team
 - (c) SPC submission requirements
 - (d) SPCM format and terms of reference
 - (e) Delegations and roles and responsibilities in respect of SP approval
- 2.3 Should there be discrepancies with consultant manuals in terms of the submission of SPs, the Sketch Plan Committee Manual shall have preference. Where discrepancies are noted, the DPWI PM must be notified in order to ensure rectification. The interaction advised on projects with officials before submission of SP's is to maximize the success rate of submissions. Once the submission complies with the requirements, all parties will be advised of the meeting by the circulation of the agenda by the office of the chairperson, the week before the SPC meeting
- 2.4 This manual specifies the various disciplines' requirements to enable sign off of the recommendations. Incomplete submissions and/or uncoordinated designs may lead to re-convening the SPC meetings for the same projects The Chairperson may decide to turn any SPC meeting into a technical co-ordination meeting

- 2.5 The DPWI PM must ensure compliance of the submission with the requirements in the SPC Manual

- 2.6 **Interaction with departmental counterparts prior to the submission of the documentation for SPCM is compulsory to ensure guidance for the development and integration of design concepts. It is the duty of the PA to ensure compliance with this compulsory step**

3. Delegations

3.1 Citation

Please find an extract of the Project Management delegations as revised in the Delegation of Powers, Duties and Functions with regard to the management of Site Clearance, Building-, or Engineering Projects, vested in the Director- General by virtue of his role as Director General/ Accounting Officer of the Department of Public Works. (Signed 24 August 2017)

3 APPROVAL OF PLANNING DOCUMENTS AND COMPLIANCE WITH REGULATIONS					
3.1	Initial approval of sketch plans, and subsequent amendments, in the case of building project, or the preliminary design report, in case of engineering project.	Heads of Projects Director Special & Major Projects	Unlimited	Upon Opinion expressed by a Sketch Plan Committee	Refer to general notes and conditions below

General Notes and Conditions				
1. Sketch plans and /or preliminary design reports of all projects consisting of				
a) New Work				
b) Upgrading, new additions or alterations to existing building/ installations/installations/engineering infrastructure				
c) Repair and renovation, or				
d) RAMP (Existing RAMP projects or where it is still applicable) or Multi -Year Service Contracts				
Must be subjected to the security and comment of the sketch Plan Com.as outlined in the table of below:				
Work Type	Category	Sub Category	Monetary Parameter	Minimum Level Committee to consider design proposals
New Work	A Completely New	A1	R0-R2M	4
		A2	R2-R20M	3
		A3	R20M-R40M	2
		A4	R40M-above	1
		A5	Master Planning	1
Repair and Renovation work	B Alterations and Additions	B1	R0-R2M	3
		B2	R2-R20M	2
		B3	R20M-R40M	1
RAMP(Including Multi - Year Service Contracts)	C Repair, Renovations and refurbishment	C1	R0-R2M	3
		C2	R2-R20M	2
		C3	R20M-R40M	1
RAMP(Including Multi - Year Service Contracts)	D Repair, Replace and Maintain	D1	R0-R2M	3
		D2	R2-R20M	2
		D3	R20M-R40M	1

2. If serious and far-reaching comments were passed by the Sketch Plan Committee, and the Professional Team was required to re-submit an amended/ revised design, such amended/ revised design must first be completed before final approval stages, referred to below, can be considered. PM to consider a further round at the Sketch Plan Committee.

3. The final approval power (delegated power as above) must only be executed subject to the comments of the Sketch Plan Committee, design documents being in compliance with prescribed space norms and cost limits, funds being available and the user department having expressed its satisfaction and granted written approval on the drawings/ report.

4. Approvals given against advice of Professional Services/ Sketch Plan Committee will be at the risk of the approving authority in terms of this delegated power.

5. The amendments must not be of such an extensive nature that it constitutes a new design and may not exceed 10 % of the project estimate. PM to supply full motivation as to the necessity for the amendments. If the 10% margin stated herein is exceeded, the comments of the Sketch Plan are to be obtained again.

Legend for the reading of the table above

Work Type	Category	Sub Category	Monetary Parameter
New Work	A <u>Green field</u> (complete new building/engineering installations or new additions to existing) (or Master Planning of an area/site and existing facilities)	A1	R0-R2M
		A2	R2M-R20M
		A3	R20M-R40M
		A4	R40M& above
		A5	Master Planning
	B <u>To existing facility</u> (upgrading and/or alterations resulting in substantial changes to existing building/engineering installations)	B1	R0-R2M
B2		R2M-R20M	
B3		R20M- R40M	
Repair and renovation work	C <u>Repair/replace what is broken/ dysfunctional</u> (without effecting any substantial changes to building appearance, circulation, air flows. etc.)	C1	R0-R5M
		C2	R5M-R20M
		C3	R20M & above
RAMP	D <u>Repair/replace what is broken/ dysfunctional and pro-actively maintain for a certain fixed period</u> (without any new work included in the project)	D1	R0-R5M
		D2	R5M-R20M
		D3	R20M & above

Criteria 1: One part of the criteria that cannot be relaxed is the need to have all disciplines represented on such Committee if the project entails the full spectrum of activities. These are: Architecture, Quantity Surveying, Civil Structural Electricity and Fire (Safety) and Mechanical Engineering and Town Planning.

Criteria 2: Relaxation is only permitted if certain work is not part of the project e.g. if no mechanical work is part of the contract, a representative from the mechanical discipline will not be required to sit on the Committee, etc.

Criteria 3: It must be accepted that none of the Committee(Either Head-or Regional Offices) will be able to have professional staff for all disciplines sitting on the Committee, nor that technical staff will have the full competency to pronounce on all matters relating to a project(especially on structural and civil engineering matters)

Mindful of the criteria outlined above, the following levels or categories of Sketch Plan Committees can be converted: (Pr Tech Eng registration to be deemed full registered professional)

Level 1 Committee:

Departmental representation for the required disciplines is from **all professional staff members** in Professional Services Units

Level 2 Committee:

Departmental representatives for the required disciplines are **a combination of professional and technical staff members** i.e. a mixed compilation – (where professionals staff members in the professional Service units, however are presently employed in an Office such members must be part of the Committee). Assumption herein is the technical staff with appropriate training and experience in the discipline they represent.

Level 3 Committee: Departmental representation for the required disciplines is from **all technical staff members**. Assumption herein is technical staff with appropriate training and experience in the discipline they represent.

Level 4 Committee: Desk top procedure i.e. no formal Committee meeting but written comments is obtained (which can be in the form of written notes on the drawings) from relevant professionals and/or technical staff** in the Office from where the project is executed. In order to expedite delivery on small, low risk project in cases where an Office does not have access to professional or technical staff in a specific discipline the Head of Projects may on the recommendations of the project Manager accept a design proposal without comment mindful of the risk taken in the process.

(** for purpose hereof professional and/or technical trained staff members can be drawn from spheres other than the professional Service Units- i.e. from the PM-cadre works inspectorate cadre, property management, etc.).

General rule for the Sketch Plan Committee: where a technical member comments on a design proposal short of what a professional would have been able to do, it is regarded still more valuable than no comment at all and leaving it to be the discretion of the PM only.

Minimum level Sketch Plan Committee:

The second last column of the table in the delegation outlines the **minimum level** Sketch Plan Committee to scrutinise and comment on design proposals. Higher category Committee may scrutinise lower category works but not the other way around. Should the Chairperson not be able to convene a Committee representing **all** the disciplines that are required a partial Committee can be called together on all work categories except A3, A4, A5, B3, and D3 provided written comments have been obtained from the particular Head Office Professionals Services discipline(s) of which a member for the Committee is not available within a such an Office prior to the convening of the committee. **An Office may also solicit the services of a**

professional service provider from the private sector on a term contract basis (awarded on the basis of a tender process) to take a seat in the Committee for a period of say one or two years in the place of a department representative for a discipline that such Office does not have the necessary resource, subject to the principle that such professional service provider may not participate in a Committee meeting if a project to which he/she has been appointed is to be commented on.

Town Planning comments:

As Regional Offices normally (with some exceptions) do not have Town Planners in their employ, a copy of the Sketch Plan is to be mailed to the D/Town Planning services at Head Office for written comments/comments in the form of written notes on drawings which comments are to be returned to the PM by mail.

3.2. Clarification

- (1) The personnel executing projects must act in terms of their delegations and the duties that should be fulfilled, which are outlined above
- (2) Approval and/or amendments thereto of Sketch Plans and the preliminary design report and drawing(s) are delegated to the Directors: Projects or Special & Major Projects. The approval is subject to the conditions above
- (3) The PA must act in terms of his appointment and interact and co-ordinate with the DPWI PM as well as the other consultants
- (4) All consultants must act in terms of their appointments and liaise with the PA during the execution of their duties through DPWI PMs
- (5) The opinion passed by the SPC is given in the form of a recommendation captured in the minutes of the meeting, supported by the PM 006/15 or PM 006/16, which the DPWI PM can present to his/her responsible Director. The approval given by the Director should not be construed as having

relieved the consultants of any of their duties and/or responsibilities in terms of the conditions of their contracts with the department

- (6) For new Repairs & Renovations, Additions etc. projects the SP documentation will be based on the Status Quo Report and Procurement Instructions based on acceptance of scope and budget approval by the Client Department. The certification of a competent DPWI PM/ Works Manager of the true reflection of the work that is required is proposed. Documentation for these type of projects are prescribed in accordance to the Guideline for Standard Documentation required for Sketch Plan Approval. (**Addendum A**)
- (7) The appropriately skilled SPC must assess the submission and the delegated Director must approve once the SPC recommends approval. The Chairperson of the SPCC may make a recommendation for approval to the delegated Director once signed PM forms have been signed off. The Chairperson of the SPCM may make this recommendation regardless whether a SPCM was held/ not, depending on the project.
- (8) No Sketch Plan approval is required for the following types of projects (as reflected in the Delegated Authority extract):
 - (a) Facilities Management contracts
 - (b) Service contracts for a term, i.e. for a/c plants, lifts, substations, etc.
 - (c) Maintenance work at specialist installations/ sites such as the scientific basis at Marion Island, Gough Island and Antarctica
 - (d) Resurfacing of roads, Parking areas, etc.
 - (e) Replacement of same equipment i.e. distribution boards, A/C units, etc.
- (9) Desk Top approval for the following type of projects are allowed as per the delegations:
 - (a) Accessibility Programmes with a value of under R500 000
 - (b) Repairs and renovations with no change in use with a value of under R5m and where like is replaced with like.

- (10) A rational design (performance-based), where the prescriptive requirements as set out in SANS 10400 cannot be applied, will only be allowed with the approval of the Sketch Plan Committee. Supporting documentation must be submitted as part of the Sketch Plan approval process and must clearly state reasons and motivation for such deviation.
- (11) Alternative construction methods/ material can only be accepted upon presentation at the Sketch Plan Committee and must be supported with appropriate documentation such as Agrément Certificates, SABS test certificates, etc. When utilizing a method/ material that is Agrément Certified, SABS tested, etc. the relevant consultant professional must provide the valid certificate and it must be ensured that the certificate addresses the quality, guarantees etc. to ensure that it is a relevant application. The Consultant professional will take responsibility for this recommendation and a motivation for the deviation must be provided.

4. Terms of Reference of the Sketch Plan Committee

- 4.1 The DPWI PM has to comply with the afore-mentioned delegations for SP approval for projects, before proceeding to the following phase of documentation
- 4.2 Acceptance of the Sketch Plan stage of projects will be formulated in the form of a recommendation from the Chairperson of the SPCM on which the responsible Director: Special Projects (Head Office) or Director: Projects (Regional Office) can base his/her decision to approve the SP documentation or not
- 4.3 The PA has to ensure that all professionals on the project team have engaged with their DPWI counterparts well before the SPCM and that an integrated design proposal has been submitted, whereby the inputs from all the professions have been collated in the design documentation of the Architect
- 4.4 The SP submission (drawings and preliminary design reports) will be assessed based on the available information at SP stage for compliance with:
- (a) Approved Procurement Instruction (including space norms, costing, special requirements and availability of funds)
 - (b) Town planning, EIA and other environmental requirements
 - (c) Client requirements and acceptance
 - (d) Departmental requirements and National Building Regulations inclusive of energy and water
 - (e) Functionality of the design
 - (f) Buildability and materiality
 - (g) Heritage requirements (HIA if applicable)
 - (h) Value for money
 - (i) Cost estimates
 - (j) Space reconciliation between proposed and requested
 - (k) Integration of various disciplines' designs
 - (l) Universal design
 - (m) Energy efficiency and sustainability in general (incl water)

- (n) Appropriate spatial integration as far as immediate adjacent and internal landscape spaces as well as public open space thresholds and interfaces are concerned
- (o) A sustainable, contextual and appropriate landscape architectural response by a professionally registered landscape architect

4.5 The terms of reference of the meeting is to establish whether the consultants' design is sufficiently advanced to be accepted as having complied with the minimum requirements of the relevant work stage. Approval of the SP documentation by the delegated authority will entitle consultants to payment for that stage of their work.

5. Roles of attendees of the meeting

5.1 The User Client Department/ User Department

The client is the Department of Works and Infrastructure/ Property Management Trading Entity and the user client/ user department is the department for which the facility is designed and is normally the occupier (i.e. SAPS, Justice, etc.) of the building. The client department must sign off the architect's stage 3 drawings, indicating approval of circulation, room sizes and the positioning or grouping of rooms. If the client department cannot attend the SPCM, their signed drawings must be supplied at the meeting. This approval by client departments should in no way be construed as approval by DPWI. Technical matters still require scrutiny by the professionals of the Department. The PM must ensure that the client representative with the relevant delegated authority signs off the documentation. In most cases, the clients have infrastructure specialists/units at their Head Office that have the delegated authority to sign off the design

5.2 The Departmental Project Manager

The PA informs the DPWI PM that the work of the architect and the consultants is sufficiently progressed to warrant a SPCM. The DPWI PM, after verifying the status then requests the PA to arrange the packaging and submission of the SP documentation in terms of the SP Manual

Site clearance issues should be ascertained by the DPWI PM prior to the appointment of consultants. The available document should be compared with actual conditions on site, before the consultants start with their work. Should any anomalies be found, these need to be taken up with the Director: Town Planning at Head Office without delay

Any recommendations by the SPCM are to be implemented by the consultant team and the DPWI PM should verify changes made to documentation in accordance

5.3 The Consulting Architect

- (1) The architect's work should be in line with the work stages 3 as set out in the Departmental Architect's Manual and the contract with the Department (Letter of Appointment/ Tender/ Quotation document). Guidelines in this document must be adhered to.
- (2) The work of the other consultants must be reflected in the work of the architect i.e. position of roads, air-conditioning units and the like. The work of the architect must be detailed to include sufficient information for the quantity surveyor to measure i.e. cupboards, kitchens, screens and the like. Note that provisional sums, lump sums, monetary allowances will not be permitted in quantity surveying documentation, as all items should be adequately designed to be measured by the QS.
- (3) The Consultant Architectural Professional must engage with the Departmental Counterpart from the onset of the project to ensure alignment with Departmental policies, etc.

5.4 Consultants (various disciplines)

- (1) The consultants are expected to interact with their professional counterparts in the DPWI SPC for the particular project, until satisfaction has been reached on the design prior to the SPCM taking place. The consultation is to be via the DPWI PM or as agreed with him/her. Typically but not exhaustively, the disciplines involved in a building project would involve the following professions in the DPWI SPC:
- (2) Architects, landscape architects, quantity surveyors, civil, structural, electrical and mechanical engineers, town-planners and the DPWI PM. Other disciplines, such as security specialists, acoustic engineers, etc. may be appointed from time to time

- (3) The PA should obtain a list of professional services officials (see PM 006/1), allocated to the project from the DPWI PM, in order to facilitate professional inputs between them and the Consultant Team
- (4) It is expected of each consultant to obtain all information necessary (guidelines/specifications/handbooks etc.) to execute his/her professional duties in terms of his/her appointment, prior to the date of the SPCM. All legislation pertaining to the professions and the built environment as well as the specific work relating to the project shall be complied with
- (5) Sufficient co-ordination between the various disciplines must take place to ensure that the PA can confirm that the most cost effective design and the most sustainable solution relating to water usage, energy efficiency and sustainability in general, is proposed. Proposals must be motivated by providing calculations etc. where required to motivate the proposed solutions.

5.5 **Principal Agent (PA)**

- (1) It is expected of the PA (typically the consulting architect) to ensure that the consultants have liaised with their professional counterparts at the DPWI and that the resulting information is made available to him/her for incorporation in his/her documentation. All designs and comments are to be integrated into the final SPCM submission
- (2) The work of the Consulting Architect/ Principal Agent is as set out in the appointment letter and includes, but is not limited to, the following:
- (3) Before detail design submission for SP submission is to be made comprising the following actions and documents:
 - (a) It must be ascertained from the DPWI PM whether the funding, site clearance and Procurement Instruction are all in place, along with a needs assessment furnished by the user client that matches the PI

- (b) A project execution plan (PEP) must be furnished by the PA and the work of his own firm, as well as the work of the other consultants must be evaluated for progress against the PEP. This information must be shared with the Department's Architectural Services, in order to monitor the progress and competence of the appointed consultants
 - (c) At the start of preliminary design stage (Stage 2) it is critical that the DPWI PM and consulting team clarify, agree and record the required scope of works developed from the inception stage (Stage 1). Furthermore the scope of works clarification must specify each consultant's scope of works and how it interacts with the other consultants' scope of works
 - (d) During preliminary design stage (Stage 2) the required scope of works must be reviewed and if needed updated on an ongoing basis
 - (e) Submission and review of preliminary designs is a critical stage of the project, as approval is required from the DPWI PM for the consultants to proceed with detail design. Each consultant must submit their preliminary designs to the DPWI Counterpart/ term consultants for preliminary design review. Thereafter the DPWI PM, consultant team and if needed by the DPWI PM the DPWI Counterpart/ term consultants must meet to review, confirm and record approval of preliminary designs for detail Sketch Plan
- (4) This process thus reduces the risk of misunderstandings regarding the scope of works and paves the way for the Sketch Plan Meeting
- (5) At submission of detail design for SP recommendation the DPWI Counterparts/ Term Consultants will thus be empowered to have an understanding of the project and required scope of works. This will assist in the review process and reduce changes required

6. Submission requirements

6.1. Submission address, dates and list of PM forms

(a) Submission to the SPC Meeting

DPWI PM to complete PM forms

Submissions to be made for attention:

Chairperson of Sketch Plan Committee

(*Att HO*: Director: Architectural Services *and at RO*: Head of Projects)

(b) Submission Times and Dates

Notification of the meeting date will be forwarded to the PM once the submissions complies with the requirements of this manual. Sufficient time must be allowed to ensure that the DPWI counterparts can properly scrutinise the documentation submitted and engage with the consultants (typically 7 working days are required).

(c) List of PM forms for SPCM submissions

PM	Description of the form
PM 006-1	Allocation of Professional Services staff (2 pages)
PM 006-2	Principal Agent (Sketch Plan Check List)
PM 006-3	Distribution Page of set Documentation to Chairperson
PM 006-4	Architect submission
PM 006-5	Civil Engineer submission
PM 006-6	Structural Engineer submission
PM 006-7	Electrical Engineer submission (incl lifts, generators)
PM 006-8	Mechanical Engineer submission (Air-conditioning and Other Mechanical Installations incl Fire Protection)
PM 006-9	Electronic Engineering Submission (incl all Electronic Engineering Services and Fire detection)
PM 006-10	Quantity Surveying Services submission
PM 006-11	Town Planning Services documentation
PM 006-12	Landscape Architect submission
PM 006-13	Heritage Advisory Services submission
PM 006-14	Other Consultants Disciplines submission
PM 006-15	Sketch Plan Approval by Dir: Projects (RO)/ Dir: Special Projects (HO)
PM 006-16	Sketch Plan Approval by Dir: Projects (RO)/ Dir: Special Projects (HO) (No SPCM)

6.2. Convening of the Meeting

(a) The PA (typically the architect) informs the DPWI PM that the consultant team has liaised with the Departmental counterparts and that all counterparts have found the documentation acceptable to proceed to SPCM. The PA will complete relevant forms in the manual and ensure the required formats and packaging requirements have been complied with

(b) The PA further has to report to the DPWI PM that he is satisfied with the outcomes of the liaison process and that a SPCM may be convened

- (c) The DPWI PM will assess the submission received for compliance
- (d) The Chairperson requires sufficient time to coordinate the meetings and to notify officials for attendance. Notification of the meeting date will be forwarded to the DPWI PM, who will notify the consultant team and the Client representative (Typically 7 working days are sufficient)
- (e) The SPC is chaired by the Director: Architectural Services or a delegated architect at HO and alternatively, by the Director: Projects or delegated architect at the RO. For the engineering projects, the Director: Projects at the RO or HO or the delegated professional engineer will chair the meeting. If the project is an engineering project it must be indicated accordingly on the covering correspondence
- (f) The Director: Architectural Services/ Director: Projects / Chairperson of the SPCM retains the prerogative to determine the agenda and the course of the meeting

6.3. Submission Detail

The following documentation aims to assist in the compilation of the SP submission to ensure overall compliance.

6. 3.1

PM 006-1 (page 1 of 2)

Allocation of Professional Staff to the Project

Note: To be completed by the DPWI PM. Approved Procurement Instruction must accompany the request
Request to be forwarded to Ms Mamalo Motsoeneng for HO Projects

PROJECT: _____ **WCS NO :** _____
ESTIMATE: _____ **REFERENCE NO:** _____
REGIONAL OFFICE (Where applicable): _____

	Name	Tel	Fax	Cell	E-mail address		
Departmental PM							
Principal Agent							
Regional UDM							
Head Office UDM							
<p>The allocation of personnel to this project is hereby requested The following disciplines, as marked below, are involved</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Architecture <input type="checkbox"/> Heritage Architecture <input type="checkbox"/> Structural Engineering <input type="checkbox"/> Mechanical Engineering (Air-conditioning & Other Mechanical Installations incl Fire Protection) <input type="checkbox"/> Quantity Surveying <input type="checkbox"/> Dolomite Expert </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Landscape Architecture <input type="checkbox"/> Civil Engineering <input type="checkbox"/> Electrical Engineering (incl Lifts, Generators) <input type="checkbox"/> Electronic Services (incl Electronic installations & Fire Detection) <input type="checkbox"/> Town Planning Services <input type="checkbox"/> Other (specify) </td> </tr> </table>						<input type="checkbox"/> Architecture <input type="checkbox"/> Heritage Architecture <input type="checkbox"/> Structural Engineering <input type="checkbox"/> Mechanical Engineering (Air-conditioning & Other Mechanical Installations incl Fire Protection) <input type="checkbox"/> Quantity Surveying <input type="checkbox"/> Dolomite Expert	<input type="checkbox"/> Landscape Architecture <input type="checkbox"/> Civil Engineering <input type="checkbox"/> Electrical Engineering (incl Lifts, Generators) <input type="checkbox"/> Electronic Services (incl Electronic installations & Fire Detection) <input type="checkbox"/> Town Planning Services <input type="checkbox"/> Other (specify)
<input type="checkbox"/> Architecture <input type="checkbox"/> Heritage Architecture <input type="checkbox"/> Structural Engineering <input type="checkbox"/> Mechanical Engineering (Air-conditioning & Other Mechanical Installations incl Fire Protection) <input type="checkbox"/> Quantity Surveying <input type="checkbox"/> Dolomite Expert	<input type="checkbox"/> Landscape Architecture <input type="checkbox"/> Civil Engineering <input type="checkbox"/> Electrical Engineering (incl Lifts, Generators) <input type="checkbox"/> Electronic Services (incl Electronic installations & Fire Detection) <input type="checkbox"/> Town Planning Services <input type="checkbox"/> Other (specify)						
NAME DPWI Project Manager _____			SIGNATURE _____				
DATE _____							
For signature of Director: Projects /Director: Special Projects (where applicable)							
NAME _____			SIGNATURE _____				
DATE _____							

Allocation of Professional Staff to the Project

Note: After allocation of personnel to the project, this form will be forwarded to the DPWI PM for distribution to Consultants

DPWI PROJECT MANAGER: _____

PROJECT: _____

WCS NO : _____

REFERENCE NO: _____

Allocation of NDPWI Professional Staff					
Discipline	Name	Tel nr	Fax	Cell	E-mail
Architectural					
Civil Engineering					
Structural Engineering					
Mechanical Engineering (Air-Conditioning & Other Mechanical Installations incl Fire Protection e.g. fire hose reels, boosters, extinguishers)					
Electrical Engineering (incl lifts, Generators)					
Electronic Engineering (incl all Electronic Engineering Services & Fire Detection)					
Town Planning					
Quantity Surveying					
Dolomite Expert					
Landscape Architectural					
Heritage Architectural					
Other (Specify)					

Comment

NAME

Director: Architectural Services/ Projects

SIGNATURE

DATE

6.3.2.

PM 006-3

Distribution Page for set of documentation to Chairperson

Note: To be completed by the DPWI PM. For Engineering projects indicate clearly on the cover correspondence the predominant engineering discipline and attach the preliminary design to this document. For solely landscape architectural projects indicate clearly as such on the cover correspondence.

For building and landscape architectural projects the following information must be indicated:

PROJECT: _____ **WCS NO :** _____
 _____ **REFERENCE NO:** _____

		Yes	No
1.	Full set of architectural Sketch Plan and/or LDP drawings are attached	<input type="checkbox"/>	<input type="checkbox"/>
2.	Project has heritage implications	<input type="checkbox"/>	<input type="checkbox"/>
3.	Heritage Authority Permit is attached	<input type="checkbox"/>	<input type="checkbox"/>
4.	Client Department has signed the Sketch Plan and/or LDP	<input type="checkbox"/>	<input type="checkbox"/>
5.	Client Department has supported the SP and/or LDP and will sign at the SPC meeting	<input type="checkbox"/>	<input type="checkbox"/>
6.	Latest approved Procurement Instruction (PI) is attached	<input type="checkbox"/>	<input type="checkbox"/>
7.	Project is designed in terms of DPWI PI	<input type="checkbox"/>	<input type="checkbox"/>
8.	Dolomite Status Certificate is attached	<input type="checkbox"/>	<input type="checkbox"/>
9.	Note special soil conditions, EIA, Town Planning or other relevant conditions hereunder	<input type="checkbox"/>	<input type="checkbox"/>

 NAME
 DPWI Project Manager

 SIGNATURE

 DATE

6.3.3.

PM 006-4

Architectural

Consultant Architect to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :	
		REFERENCE NO:	
		Yes	No
1	Set of architectural drawings attached, list of drawings on next page	<input type="checkbox"/>	<input type="checkbox"/>
2	Approved Procurement Instruction is attached	<input type="checkbox"/>	<input type="checkbox"/>
3	Copy of all disciplines' documentation has been enclosed. (QS estimate; Mechanical Eng. report & drawings, Mechanical: Fire & Safety report & drawings, Structural Eng. report & drawings, Civil Eng. report & drawings, Electrical Eng. report & drawings, Landscaping architecture reports & drawings, Specialists designs relevant to this project)	<input type="checkbox"/>	<input type="checkbox"/>
4	The Space reconciliation document is attached	<input type="checkbox"/>	<input type="checkbox"/>
5	The completed PM 006/2 has been attached to this set	<input type="checkbox"/>	<input type="checkbox"/>

NAME Consultant Architect

SIGNATURE

FIRM/ COMPANY

DATE

For completion by the Principal Agent		Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>	
NAME	SIGNATURE		
FIRM/ COMPANY	DATE		
For completion by DPWI Architect			
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted			
NAME	SIGNATURE		
DATE			

6.3.4.

PM 006-2

Principal Agent

SKETCH PLAN CHECK LIST

Note: To be completed by Consultant Architect. Indicate next to EACH item whether provided or not applicable

PROJECT: _____

WCS NO : _____

REFERENCE NO: _____

<p>1. SITE PLAN</p> <p>1.1 Site dimension _____</p> <p>1.2 Building line setbacks _____</p> <p>1.3 Contours at suitable intervals and spot levels of pavements and floors _____</p> <p>1.4 North point _____</p> <p>1.5 Prevailing winds _____</p> <p>1.6 Street names _____</p> <p>1.7 Type of existing and proposed- Boundary fences, walls and gates _____ Retaining walls _____</p> <p>1.8 Existing buildings on adjoining sites likely to affect the design of new buildings Rights of adjoining owners _____ Need for lateral support, etc. _____</p> <p>1.9 Existing buildings on site to be - Retained _____ Demolished _____</p> <p>1.10 Natural water courses with flood lines and levels _____</p> <p>1.11 Servitudes and Departmentally owned service mains which - Cannot be disturbed _____ Need to be diverted _____</p> <p>1.12 New buildings _____</p> <p>1.13 Site terracing, with treatment of banks grassed, stone pitched, concrete retaining walls, etc. _____</p> <p>1.14 Roads, paths, parking (incl. accessible parking), paving with finishes- gravel, tarmac, concrete etc. _____</p> <p>1.15 Positions and depths of connection points of sewer, storm water drain, water and fire service _____</p> <p>1.16 Dolomite risk zonation _____</p> <p>2. BUILDING PLANS</p> <p>2.1 Overall dimensions of new work _____</p> <p>2.2 Treatment at junction of new and old work _____</p> <p>2.3 Structural column grid _____</p> <p>2.4 Room dimensions and areas (toilets excepted), corridor widths _____</p> <p>2.5 Engineering service rooms and ducts _____</p> <p>2.6 Position of sanitary and other fittings _____</p> <p>2.7 Floor finishes _____</p> <p>2.8 Furniture layout _____</p> <p>3. ELEVATIONS</p> <p>3.1 General architectural treatment _____</p> <p>3.2 Principal materials _____</p> <p>3.3 Dimensions _____</p>	<p>4. SECTIONS</p> <p>4.1 Dimensioned floor to floor and floor to ceiling height _____</p> <p>4.2 Floor levels and adjacent natural and formed ground levels, showing excavation and filling _____</p> <p>4.3 Roof slopes and type of construction and covering _____</p> <p>4.4 Material and finish of walls, ceilings, floors etc. _____</p> <p>Door, window, finishing schedules _____</p> <p>5. ACCOMMODATION</p> <p>5.1 Comparative schedules of rooms required with areas _____</p> <p>6. CONSULTATIONS:</p> <p>Has the scheme been discussed with:</p> <p>6.1 Specialist Department _____</p> <p>6.2 User Department _____</p> <p>6.3 Divisional Engineer, Telkom, telephone requirements _____</p> <p>6.4 Local Authority for - Services _____ Town-planning requirements _____ Firefighting requirements _____ Notification to Local Authority _____</p> <p>6.5 Quantity Surveyor for costs _____</p> <p>6.6 Consultant and/or Departmental Specialist _____</p> <p>6.7 Structural Engineer _____</p> <p>6.8 Civil Works for roads, drainage and storm water _____</p> <p>6.9 Mechanical, for - Fire service _____ Heating, ventilating, and air- conditioning _____ Mechanical plant/equipment _____</p> <p>6.10 Electrical Emergency Generators for lifts _____</p> <p>6.11 Chemical Technology: Process design of water and sewerage treatment facilities _____</p> <p>6.12 Dolomite Risk Manager _____</p> <p>6.13 EIA _____</p> <p>6.14 HIA _____</p> <p>6.15 Local Authority Landscape Architect _____</p> <p>6.16 Departmental Landscape Architect _____</p> <p>7. GENERAL</p> <p>7.1 Any other information likely to affect the Estimate (state and attach detail) _____</p> <p>7.2 Sustainability: the following aspects been addressed: Passive design principles _____ Innovative proposals _____ Alternative energy sources (20% compulsory) _____ Energy calculations _____</p> <p>7.3 Co-ordination with other consultants also indicated in architect's work i.e. structure, air conditioning etc. _____</p> <p>8. SUSTAINABILITY</p> <p>8.1 PA confirms that the most sustainable building has been proposed in consultation with the other disciplines _____</p>
--	---

CERTIFICATION BY CONSULTANT ARCHITECT

The Department's instructions given in the letter of appointment, the "Architects' Manual", with annexures, and the items on this Check List and the "Schedule of Construction and Finishes, etc." have been studied by me/us and, where applicable, complied with. Items which have not been complied with, or for which alternative proposals are made, are as follows (attach) :

CONSULTANT ARCHITECT / PRINCIPAL AGENT

DATE

6.3.5. Architectural Documentation Required

(PM 006-2 to be read in conjunction with PM 006-5 for descriptions and information required. Principal Agent/Architect to arrange and compile a set of drawings)

(1) Guidelines for DPWI Architects

- Checklist for submission to the Sketch Plan Committee
(Available from Mamalo Motsoeneng at Mamalo.Motsoeneng@dpw.gov.za)
- Have all the planning aspects listed below been considered

(a) Basic information to be considered

1.0 TOWNPLANNING

- Land ownership
- Description of erf/ stand (erf no. etc.)
- Erf/ stand size (sqm)
- Current zoning
- Floor Space Ratio (FSR)
- Coverage
- Current height restrictions
- Land use
- Building lines / setbacks
- Orientation/ north point
- Street names
- Site location
- EIA Environmental Impact study and expiry date of Environmental Authorization
- Access to the site
- Aesthetics of the site
- Is the site big enough for the proposed development

- Indicate position of existing buildings on adjacent sites and their usage.
- Natural ground contours at suitable vertical intervals or levels at each corner of the site
- Bulk services
- Site Clearance Certificate

2.0 PHYSICAL SITE CONDITIONS

- Geological, geotechnical and topographical site conditions
- Previous use of site and rectification
- Site development difficulty grade
- Water table/ water on site from vlei/ marsh land or other sources

3.0 ENGINEERING & UTILITY SERVICES (Civil, Structural, Electrical and Mechanical)

- Municipal /Rand Water Board/ other water supply
- Borehole/ availability of potable water
- Municipal sewerage or sewerage plant
- Storm water (Municipal) or other
- Electricity
- Fire Services, fire escapes, staircases in general
- Lifts, goods lifts, accessible lifts, hoists etc.

4.0 HERITAGE

- Status and implication
- Existing structures on site
- Existing trees and natural features
- Permit from Heritage Authority
- Statement of Significance

- Heritage Impact Assessment
- 60 Year rule and/or other triggers

5.0 SECURITY

- SAPS
- NIA & others
- Access control
- Safes
- Cells and holding areas
- Electronic equipment

6.0 LANDSCAPE ARCHITECT

- Environmental sensitivity
- Conservation status
- Indicate surrounding streetscape (roads, kerbs, sidewalks and street trees), topographical/ site features (ridges, slope, watercourses, existing vegetation etc.)
- Involve Landscape Architect in site layout and master planning
- SACLAP registered landscape architect to prepare landscape development plan

7.0 OTHER CONSULTANTS

Examples of other consultants that could be required include Acoustic Engineers, Façade Engineers, etc.

7.1 Acoustic engineer

- Noise control – internally and externally by plant growth, earth berms and screen walls

- Sound quality – reverberation times, no of persons and other calculations
- Materiality – co-ordination with architect's design

7.2 Sustainability

- The PA must ensure that the most sustainable solution relating to water usage, energy efficiency, maintenance and sustainability in general is proposed.
- This proposal can only be made once consultation with all disciplines relating to sustainability has occurred. Rainwater harvesting, grey water usage and alternative renewable energy sources are to be investigated and commented upon by the Consultant Team.
- The input must include comment on life cycle costing, payback period and capital investment. Calculations where applicable, must be provided. SANS 10400 XA must be complied with as a minimum requirement.

(b) Drawings required

Locality Plan Clearly indicating the position of the site in relationship to its surroundings, with a description of buildings and usage of adjacent sites. Also indicate sites such as Schools, Hospital, Municipal Buildings, Magistrates Court, Government buildings, streets and street names, pedestrian walks, parks, water courses etc.

Scale: 1:1000; 1:500

Site Plan

Scale: 1:500; 1:300; 1:200; 1:100

Site Plan to clearly indicate the following:

- Boundaries of the site
- Dimensions of the site on which the building is to be erected
- Building lines to be indicated & clearly dimensioned
- The position & width of any servitude or right of way to which the site is subject
- The registered number or other description of the site and the erf/ stand number
- Direction of true north
- The street name / s on which such site abuts
- Location of any existing drain, storm water drain, surface channel or attenuation facility on the site
- Location of the new proposed building
- Location of any existing buildings
- Indicate whether any of the existing buildings to be demolished & or any new proposed additions
- Indicate access to the site (new & existing)
- Existing trees; trees to be removed/ retained
- Position of water storage tanks, substation, water treatment plants, sewerage treatment plants & other related.
- Road layout & parking as per LDP
- Deliveries to site
- Garbage removal & storage of garbage on site
- Fire hydrants
- Wind direction
- Fencing: Indicate position, height and type, including gates
- Indicate position of flags
- Bench mark, grid system, datum point, reference point, architectural levels has to be coordinated with other disciplines
- Site contours to full extent of site and at minimum intervals of 500mm

- Use Departmental Title Block with the following info to be correctly depicted: Drawing number, WCS number, File Number (See <http://www.publicworks.gov.za/consultantguidelines.html> for Departmental Title Block)

Layout drawings: Plans, Sections & Elevations

Scale: 1:200, 1:100, 1:50, 1:20

General structural details of the building should be documented sufficiently so that the proposed structure of the building may be clearly understood

Fire Protection Plans

Scale: 1:100, 1:200, 1:50, 1:20

(c) **Consideration of actual design of building**

- All the above to be taken into consideration
- Client Department planning requirements must be incorporated in the design
- Orientation of building/s: should be north / south
- Usage of site / Position of proposed buildings on site based on site analysis and land-use planning by landscape architect
- Position of proposed buildings on site to enforce built-to lines and existing street façades in order to uphold and establish well defined streetscapes and public spaces
- Building mass and layout support generally accepted urban design principles and standards
- Integrated secure street interface design to eliminate fencing as far possible
- Access to site
- Allowance for future expansion
- Levels of Buildings & taking into consideration the fall of the land
- Retaining walls: Height of retaining walls not too excessive

- Site layout showing paths, parking & economic use of roads as per LDP
- Roof structures – low risk approach
- Materials compliant with Departmental Standard Specification, should be low maintenance, hard wearing, long lasting within cost limitations (life cycle of building to be taken into account)
- The design fits in aesthetically with the surrounding area in respect of height, architectural character and spaces created, tectonics and context
- Provision has been made for internal courtyards and adjoining outdoor spaces with a feasible micro climate as usable spaces of relief
- Security requirements
- Accessibility of the site and buildings
- Design compliant with all the Acts as set out in Letter of Invitation/ Consultant Tender document and other relevant Acts
- Sustainable design principles and calculations
- Water efficient fittings, rainwater harvesting, grey water re-use etc. is to be investigated and proposals in this regard to be provided.
- Energy efficiency, energy efficient fittings, alternative energy sources etc. in accordance to SANS 10400 XA is to be investigated and proposals in this regard is to be provided. Energy calculation to be provided in support of the design proposal

(d) Planning approvals process prior to submission to the SPCM

- Approved Procurement Instruction has been audited and the accommodation supplied for the project, is in compliance with the approved required accommodation
- Consultation has taken place with consultant architect & representative / architect of the Client Department

- Revisions to drawings have been made and re-submitted for further comment, until such time as the planning is in line with the Client Department's requirements and specific needs, and the Client Department representative is prepared to sign off, and the DPWI architect considers that all the other aspects required by DPWI have been complied with
- All the consultant professional disciplines have consulted with their counterparts at DPWI and submitted their Design Reports & drawings
- After consultation has taken place and once the engineering reports & QS estimates & norms reconciliation are in line with what is required the DPWI professionals should indicate that they are satisfied that the work is ready for submission to the SPC
- Establish whether the existing structures are older than 60 years.
If there are no Heritage implications, then no additional approval is required from a Heritage Authority: SAHRA or the relevant PHRA (Provincial Heritage Resources Authorities)
- These are not necessarily the only aspects of the design to be considered

6.3.6.

PM 006-5

Civil Engineering

Consultant Civil Engineer to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :	
		REFERENCE NO:	
		Yes	No
1	The concept and viability design has been presented to the DPWI Civil Engineer and the comments received have been incorporated in the detail design.	<input type="checkbox"/>	<input type="checkbox"/>
2	The preliminary design has been completed in terms of conditions	<input type="checkbox"/>	<input type="checkbox"/>
3	Detail design report has been attached, see attached guideline and also refer to the engineer's manual.	<input type="checkbox"/>	<input type="checkbox"/>
4	The design has been coordinated with architect. Note: see engineer's manual for detail design documents	<input type="checkbox"/>	<input type="checkbox"/>
5	The departmental engineer has been consulted for the detail design phase and has given comments	<input type="checkbox"/>	<input type="checkbox"/>
6	The departmental engineer's comments have been incorporated into the design, if not, state reasons below	<input type="checkbox"/>	<input type="checkbox"/>
7	Dolomite Status Certificate is attached	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

NAME Consultant Civil Engineer

SIGNATURE _____

FIRM/ COMPANY _____

DATE _____

For completion by the Principal Agent					
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center; padding: 5px;">Yes</td> <td style="text-align: center; padding: 5px;">No</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> </table>	Yes	No	<input type="checkbox"/>	<input type="checkbox"/>
Yes	No				
<input type="checkbox"/>	<input type="checkbox"/>				
NAME _____	SIGNATURE _____				
FIRM/ COMPANY _____	DATE _____				
For completion by DPWI Civil Engineer					
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted					
NAME _____	SIGNATURE _____				
DATE _____					

6.3.7. Civil Engineering Documentation Required

(a) Sketch Plan (Detail Design) Stage - (Civil Engineering)

General Comment

The Department of Public Works and Infrastructure has a large and diverse property portfolio. Various Departmental Guidelines have been prepared to assist Professional Consultants in the design and documentation of DPWI Projects. They provide direction and guidance on DPWI's requirements and enable Consultants to efficiently translate them into acceptable design solutions

The Guidelines are not intended to replace the level of initiative, competence and care as expected of consultants in the performance of their duties. Consultants are encouraged to carefully consider the merits of the Design Guidelines in the context of the needs of individual projects. If a Consultant considers a guideline not to be appropriate and that a more suitable solution is available, proposals to this effect should be raised for consideration by the Department

In the absence of express written approval for a deviation from Departmental guidelines, the Department will assume that the requirements contained in the various Design Guidelines have been fully addressed and incorporated in the proposed Design Solution and Specifications

Design calculations and investigations should be performed through all stages in an orderly, logical way. They should not only allow the design engineer to arrive at conclusions sufficient to lead to the preparation of detailed drawings, but their final form should reflect neat and systematic thought processes. At any time in the future someone wanting to check back on the original design should be able to find out what the design engineer was trying to achieve and what design standards he used

The engineer must take particular care in presenting the work connected with his design to ensure that —

- The design processes themselves are orderly, legible and logical so that the engineer charged with the checking should be able to follow them with ease
- The technical and academic quality is acceptable; and
- Adequate draughting standards are complied with

The Preliminary Design Report (PDR) gives the designer the opportunity to set out the design considerations and obtain approval for proposed deviations from Departmental standards. Where various options exist to arrive at a suitable design solution, the Department can select the preferred configuration based on information presented in the PDR. To enable the Departmental Civil Engineer to endorse the civil design at Sketch Plan Stage, the designer must have submitted a PDR documenting all facets of the design, to the Department and prepare a PowerPoint presentation for the DPWI Civil Engineer.

Upon conclusion of the PDR stage, the consultant should ensure that all comments raised in the PDR presentation are incorporated in the detail design which will be signed off at the Sketch Plan Committee meeting.

The following section proposes a checklist that should be completed by the Project Manager and Professional Consultant to ensure that the Departmental Civil Engineer has sufficient project detail to enable him to check the design proposal

Sketch Plan Checklist for the Civil Engineering portion of the design

(Note: Although not specifically related to the Civil Engineering, the EIA and Heritage requirements of a project as well as any interface with Service Providers and Municipalities must be addressed in detail at

Sketch Plan stage as they could have a substantial impact on the cost of the works.)

The checklist is generic and some of the listed items/activities may not be applicable to the particular project under review. Provision must be made for a response of Not Applicable and perhaps In Process. Generally most of the aspects should be addressed in the DDR but it can be possible that some of the processes haven't been taken to conclusion (EIA for example) before submitting the PDR. An objective decision on allowable exclusions will have to be made by the Project Manager after consultation with the Departmental Civil Engineer so that the Sketch Plan approval is not delayed

The questions/statements below require a Yes /No /Not Applicable response

1. General

- The Project Manager has briefed Departmental Civil Engineer on client requirements and facility configuration
- The Civil Consultant has discussed design options/details with the Departmental Civil Engineer
- Environmental Impact Assessment
 - (i) Application for exemption was made
 - (ii) Scoping report was compiled and submitted
 - (iii) Full EIA process is required by DEAT and has been initiated
 - (iv) Environmental Authorization was obtained
- Have the requirements of the local municipality been established and taken into consideration in the design proposal?
- If a services report is required by the Municipality or Service Provider has it been compiled and submitted?

2. Preliminary Design Report (PDR) and Detail Design Report (DDR)

- A Preliminary Design Report (PDR) and Detailed Design Report (DDR) has been drafted in accordance with Clause B 1.4 of PW347 – Civil Engineering Manual, and has been forwarded to Departmental Civil Engineer

- The PDR includes the following:

(a) General

- A Clear description of required facilities as defined by the Client Department. Definition includes function and purpose of facilities; the number and classes of occupants; periods of usage and usage patterns; all farming, abattoir or business activities listed separately
- Confirmation by the Architect or Principal Agent that the description of the facility in the Engineer's PDR is accurate and complete. Append letter of confirmation to report A summary of the Site Clearance information from the Site Clearance Report-Town Planning; problems identified at site clearance stage
- Locality of project including a large scale - provincial locality map and a small scale map showing locality in town
- Photos of typical or specific site characteristics – topography, access roads, vegetation, wetlands etc.
- Design criteria clearly referenced to Departmental or other guideline documentation. Deviations from standards clearly indicated and motivated

- Recommendations and motivation for further investigations, surveys and servitudes

(b) Water Supply

- An assessment of water use as defined by the function or purpose of the facility
- Water demand per category calculated and presented in tabular form
- Tabled calculation of peak factors with reference to Departmental guidelines
- Local Fire Authority regulations and degree of assistance available from the Authority
- The facility classification in terms of fire risk. Tabled fire flow requirements with reference to Departmental or Fire Authority standard
- Layout drawing with position of municipal hydrants adjacent to site.
- Confirmation in writing from municipality of sufficient capacity in the municipal water supply infrastructure
- Results of investigations (diurnal flow and pressure readings) confirming the capacity of the municipal infrastructure. (Alternative to the written confirmation from municipality above)
- As-built data of Municipal water supply infrastructure
- Results of surveys, investigations, methodology and assumptions if as-built data is not available
- Verification of municipal water connection cost and the possibility of bulk water contribution cost

- A copy of the Service Level Agreement with the Service Provider is appended to this report. (Alternative to the verification of connection and bulk costs)
- Special requirements of the municipality and how these requirements have been incorporated in the design proposal.
- Where borehole water is to be utilized, test results from yield and quality tests. Recommendations on usage and abstraction rates by Geo-hydrologist
- The conceptual design of river abstraction method
- A recommendation on licensing requirements to utilize borehole or river water
- Proposals on water treatment, including disinfection, of borehole and river water. Results of the water quality analysis
- Water Storage requirements and proposal. Specific requirements of the user-department or requirements for fire fighting
- Confirmation that elevated storage towers are listed in EIA
- Proposed layout of water reticulation and placing of services. Pipe networks, ring mains etc. shown on sketch drawings
- Water supply design standards in terms of materials, hydraulic specification, velocity, pressure limits and roughness coefficients
- Specifications of materials, valves, air valves, PRV's, water meters etc.

- Placement of water meters to monitor water usage
- General arrangement and design basis for water supply pump stations, including operational control and standby capacity

(c) Storm water

- Summary of statistical data of the nearest rainfall station
- The sub-catchment areas are shown on the layout plans
- Design criteria and calculation assumptions and methodology
- Design storm return period and tabulated runoff per sub-catchment
- A description of any specific design requirements in terms of storm water reuse or conduit size limitations
- Storm water design standards in terms of materials, hydraulic specification, velocity, pressure limits and roughness coefficients.
- Flood line for the 1:100 year storm event shown on the layout plan.
- Routing of storm water affecting cut and fill slopes on embankments or platforms
- Concept design of flood attenuating or control devices as well as a description of storm water management plan

(d) Sewerage

- A preliminary assessment of sewer flow as defined by the function or purpose of the facility with tabulated results of calculations and design figures
- Table showing criteria and results of the peak factor calculations with reference to Departmental guidelines
- General arrangement and design basis for sewerage pump stations; including sump design, instrumentation and standby capacity
- Description of the type and capacity of the sewerage collection system
- Capacity assessment of municipal sewer or written confirmation of capacity by municipality
- Location and accurate level of municipal sewer indicated on the layout drawing
- Assessment of sewerage treatment options
- Outcome of Licensing and sewerage treatment discussions with DWAF
- Does the EIA scoping report include the establishment of an on-site sewerage treatment works?
- If on-site treatment has been proposed with irrigation of the final effluent, is there sufficient land available within the site boundary for irrigation
- Results of percolation tests if soak-aways are proposed
- Sewerage collection system design standards in terms of materials, min slopes, hydraulic specification, velocity and roughness coefficients

- Specifications of special materials, valves, pumps, macerators, water meters etc.
- Sewerage connection cost and the possibility of bulk sewer contribution cost

(e) Roads and Parking

- The information relevant to vehicular traffic to be accommodated on the site e.g. Vehicle type loading, frequency and definition of functional areas
- Road classification for different functional users
- Local Authority or the road owner's regulations applicable to access
- Bulk contribution cost to municipality for access roads
- Results or recommendation on traffic study
- Applications lodged for way leaves
- Road and pavement design criteria

(f) Earthworks

- Final site layout obtained from Architect
- Platform elevations obtained from Architect
- Retaining wall requirements communicated with Structural Engineer
- Slope stability and method of stabilization detailed and motivated
- Cut and fill volumes calculated and balanced
- Proposed design standards for earthworks
- Borrow pits and Spoil sites have been identified
- Borrow pits and Spoil sites were included in EIA scoping report

(g) Construction Specifications and Form of Contract

- Construction Standard Specifications e.g. SANS 1200; COLTO
- Form and Conditions of contract specified e.g. GCC 2004, JBCC

(h) Cost Estimate

- Cost estimate and comparison of the various design options
- Life cycle cost where needed to motivate between options and select final design configuration

(i) Appendices

- Confirmation by the Architect or Principal agent that the description in the Engineers PDR is accurate and complete
- Summary and Recommendations from Site Clearance Report.
- EIA – Environmental Authorisation
- Marked up architects drawings showing concept design and layout of roads and parking; bulk water supply and water reticulation; sewerage reticulation, sewer outfall, sewerage treatment, effluent or alternative sewerage disposal; storm water catchments, collection and conveyance systems
- General arrangement of pump stations
- Recommendations of Geotechnical Investigations
- Recommendations of Traffic Study
- Correspondence with Local Municipality including Service Level Agreement (SLA)

- Correspondence/ Environmental Authorisation - Road Owner.
- Way leave applications
- Photos of typical or specific site characteristics.
Results of Water and Sewerage investigation
- Results of Water and Sewerage investigation
- Explanatory drawings, typical details or typical road cross sections

(j) Dolomite Issues

- During the design or execution (Construction) stage of the project the Project Manager (PM), consultant team and contractor should be alert and pro-active in locating and/or detecting any trace or sign of the presence of dolomite
- Should this be found, it must immediately be brought to the attention of the PM and the designated official responsible for dolomite matters at the Regional office/ Head office
- As and where applicable, appropriate designs/specifications/details for dolomite conditions should conform to the Department's manual: "Appropriate development of infrastructure on dolomite", Document PW 344
- Should there be any uncertainty about the presence of dolomite and/or unscheduled ground movement event, then such enquiries should be referred to the Directorate: Civil & Structural Engineering at Head Office for further investigation and subsequent certification

(k) Drawings:

- PDR drawings: Keyplan, Layouts, Typical Details, Storm water Management Plan.
- SPR drawings: Keyplan, Layouts, Typical Cross Sections, Typical and Standard Details, Longitudinal Sections, Detailed Cross Sections, Expropriation plans (if applicable), Road Markings and Signage Details, Setting Out Plans.

6.3.8

PM 006-6

Structural Engineering

Consultant Structural Engineer to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :		
		REFERENCE NO:		
		Yes	No	
1	The concept and viability design has been presented to the DPWI Civil Engineer and the comments received have been incorporated in the detail design	<input type="checkbox"/>	<input type="checkbox"/>	
2	The preliminary design has been completed in terms of conditions	<input type="checkbox"/>	<input type="checkbox"/>	
3	Detail design report has been attached, see attached guideline and also refer to the engineer's manual	<input type="checkbox"/>	<input type="checkbox"/>	
4	The design has been coordinated with architect. Note: see engineer's manual for preliminary design documents	<input type="checkbox"/>	<input type="checkbox"/>	
5	The departmental engineer has been consulted for the detail design phase and has given comments.	<input type="checkbox"/>	<input type="checkbox"/>	
6	The departmental engineer's comments have been incorporated into the design, if not, state reasons below	<input type="checkbox"/>	<input type="checkbox"/>	
7	Dolomite Status Certificate is attached	<input type="checkbox"/>	<input type="checkbox"/>	

Comments:

NAME Consultant Structural Engineer

SIGNATURE

FIRM/ COMPANY

DATE

For completion by the Principal Agent					
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center; padding: 5px;">Yes</td> <td style="text-align: center; padding: 5px;">No</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> </table>	Yes	No	<input type="checkbox"/>	<input type="checkbox"/>
Yes	No				
<input type="checkbox"/>	<input type="checkbox"/>				
NAME	SIGNATURE				
FIRM/ COMPANY	DATE				
For completion by DPWI Civil Engineer					
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted					
NAME	SIGNATURE				
DATE					

6.3.9. Structural Engineering Documentation Required

The following Documents should be used for the Compilation of Preliminary and Detailed Design Reports: Structural (PDR-S) and is available on the Public works website:

Documents for the compilation of Preliminary and Detailed Design Reports: Structural

- The following documents to be used for the compilation of the Preliminary Design Reports (Structural).
- Please note that these documents are supplementary to the PW 371 and the Manual for Consulting Structural Engineers and in no way a substitute for the said documents.
- In the case of non-compliance with any of the requirements outlined in the documents the PM 006-6 form will not be signed off.

- (1) 01 Front Page
- (2) 02 General Index
- (3) 03 Guideline (Structural)
- (4) 04 Check List

(1) 01 Front Page

- This is the standard Front Page to be used for all Design Reports: Structural compiled for the Director: Structural Engineering of this Department.
- This document is user protected with the provision that the Consultant has access only to the highlighted/bracketed text areas to enable him to describe his specific project.
- Provision was also made for the Consultant to enter his Company logo and/or details in the text box below the heading: **Prepared by:**

(2) 02 General Index

- The General Index is a typical example of the Table of Content for Preliminary and Detailed Design Reports: Structural and gives an indication of the paragraphs that should be included in the report.
- Although most of the paragraphs will be applicable for most of the projects the Consultant will still have to adapt it for his specific project.

(3) 03 Guideline (Structural)

This document should be used as a guideline for the Consultant to compile his Sketch Plan documentation. It addresses problems frequently encountered with Sketch Plan submissions and aspects covered under the following heading:

1.0 General

2.0 Documents

2.1 Sketch Plan submissions comprise of three documents namely:

- Drawings
- Preliminary Design Report (PDR)
- Geotechnical Report

3.0 Drawings

3.1 PDR drawings:

- 3.1.1 Locality Plan
- 3.1.2 Site Layout plan
- 3.1.3 Layout plans
- 3.1.4 Architectural drawings
- 3.1.5 Structural drawings (for the recommended option).

3.2 DDR drawings:

- 3.2.1 Locality Plan
- 3.2.2 Site Layout plan
- 3.2.3 Layout plans with setting out coordinates
- 3.2.4 Architectural drawings
- 3.2.5 Structural drawings
 - 3.2.5.1 Keyplan
 - 3.2.5.2 Layouts
 - 3.2.5.3 Typical Cross Sections
 - 3.2.5.4 Typical and Standard Details
 - 3.2.5.5 Concrete details
 - 3.2.5.6 Structural steel details
 - 3.2.5.7 Connection details
 - 3.2.5.8 Reinforcement drawings
 - 3.2.5.9 Bending schedules.

4.0 Preliminary design report (incl. presentation) and Detailed design Report

5.0 Geotechnical Report

To avoid any problems with the submissions, the Consulting Engineer should ensure that the relevant standards as stipulated are to be followed. All assumptions and deviations from the relevant standards should be clearly outlined and motivation provided.

(4) Check List

- The Check List should be completed by the Consultant who is responsible for the structural design work and the compilation of the Preliminary Design Report
- A hard copy of the Check List, completed and signed by the Consultant Structural Engineer, should be submitted together with the Preliminary Design Report

6.3.10

PM 006-7

Electrical Engineering

Consultant Electrical Engineer to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT: _____ **WCS NO :** _____
 _____ **REFERENCE NO:** _____

		Yes	No
1	The preliminary design has been completed in terms of conditions	<input type="checkbox"/>	<input type="checkbox"/>
2	Preliminary design report has been attached, see guideline in SPCM and also refer to the engineer's manual	<input type="checkbox"/>	<input type="checkbox"/>
3	The design has been coordinated with architect. Note: see engineer's manual for preliminary design documents	<input type="checkbox"/>	<input type="checkbox"/>
4	The departmental engineer has been consulted	<input type="checkbox"/>	<input type="checkbox"/>
5	The departmental engineer's comments have been incorporated into the design, if not, state reasons below:	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NAME Consultant Electrical Engineer

SIGNATURE _____

FIRM/ COMPANY _____

DATE _____

For completion by the Principal Agent		
	Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>
NAME	SIGNATURE	
FIRM/ COMPANY	DATE	
For completion by DPWI Electrical Engineer		
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted		
NAME	SIGNATURE	
DATE		

6.3.11 Electrical Engineering Documentation Required

With reference for SPCM check list the following items should be in general in the preliminary design report:

1. Scope of works
2. Incoming power supply i.e. MV and LV networks, metering, reticulation, transformers etc.
3. General electrical installation i.e. distribution boards, socket outlets, dedicated socket outlets, light switches, light fittings, lighting levels, emergency lighting, external lighting, conduit wiring system
4. Lightning protection systems
5. Earthing system
6. Stand-by power requirements
7. Telephone and data wiring system
8. Sketch Plan electrical design drawings
9. Alternative power provision (solar, wind etc.- depending on suitability)

A. Guidelines for Status Quo Report

1. Signing off the report by the electrical design Engineer of the electrical installation as well as the responsible registered electrical engineer/technologist that approves the report. With his ECSA registration number
 - Name:
 - ECSA Registration Nr:
 - Signature:
 - Date:

2. **Table of Contents**
 - (b) Scope of work
 - (c) Site description
 - (d) General use of building

- Offices
 - Sleeping units
 - Operations command centre
 - Training facilities, etc.
- (e) Indicate spare capacity on electrical system.
- General
 - Spare capacity per distribution board (point)
- (f) Electrical installation:
- Condition of the electrical installation(electrical elements and equipment)
 - Proposed correctional action / Design requirements to upgrade and or to replace / repairs required
 - Cost for repairs, maintenance and or upgrades
 - Recommendation on each installation electrical element
- MV system
- Supply Voltage
 - MV switch room – Local or council
 - MV switch gear, type and area of supply.
 - Transformer, size, load and type. Indicate spare capacity
 - Supply and feeder cables Type, size and load
 - Indicate spare capacity on electrical system
 - Overhead line system. Type and size
- LV Network
- LV Room
 - Generator Capacity, Type size and indicate spare capacity
 - Main LV Distribution board
 - PSCC values of each DB and KA rating of protection Circuit breakers.
 - SLD off all circuits and feeders, cable size and capacity.

- LV kiosk location and number
- LV Sub distribution boards
- LV Cables sizes and capacity
- LV OHL Size and capacity
- Indicate spare capacity on LV electrical system
- SUB LV Distribution boards
 - PSCC values of each DB and KA rating of protection Circuit
 - List of feeders and indicate spare capacity and possibility for additional load
 - ID Area of supply
 - DB's Position is it accessible as per statutory requirements
 - Do labeling comply with SANS requirements
 - Supply and feeder cable sizes.
 - Earthing system
 - SLD of BD layout and provide CB size, KA rating
 - Indicate spare capacity on electrical system
- Electrical Installation in buildings inventory
 - Number of distribution boards, Main and Sub DBs, Normal and Essential sections
 - Motor control centers (MCC)
 - Lifts
 - AC Plants and Units
 - Fire booster Pumps systems
 - Sump Pumps
 - Lights type, energy efficient, Watts, Lux levels as per SANS etc.
 - Emergency lights, Type, Battery backup, Watts etc.

- Socket outlets, Normal and Dedicated, Connected to essential load
 - UPS
 - Generator Load
 - PABX System
 - Security System
- (g) Cost estimate
- Repairs – to its original functional condition
 - Emergency – immediate repairs to avoid loss of live and or damage to building or equipment
 - Maintenance – to keep it in a functional / working condition and to keep the electrical elements complying with statutory requirements.
 - Replacement / Upgrade to comply with statutory compliance
- (h) Recommendations
- To repair, upgrade, to be demolished, new project to reinstate, to maintain including life cycle cost for a period
 - Photo Report

B. Guidelines: Preliminary Design Report

1. Signing off the design report by the electrical design Engineer of the electrical installation as well as the responsible registered electrical engineer/technologist that approves the report. With his ECSA registration number
 - Name:
 - ECSA Registration Nr:
 - Signature:
 - Date:

2. Table of Contents

- (a) Introduction / Background
- (b) Site description
- (c) Load Estimate
 - Existing MV / LV Main Infrastructure
 - ID if electrical infrastructure can accommodate new requirements and indicate spare capacity. (Attach confirmation from local supply authority.) This item can delay the approval of Sketch Plan if not provided.
 - Number, Size of Supply, TR size, Type etc.
 - Telephone & Data network
 - Future MV / LV Infrastructure requirements
 - Load required per area
 - Total Load required
 - Proposed Fault current basic calculation
 - Voltage Drop calculations
- (d) Scope of work
 - Existing Buildings / New Buildings
 - General use of building
 - Offices
 - Sleeping units
 - Operations command centre
 - Training facilities, etc.
 - General use of building as above
- (e) Electrical installation requirements / Preliminary Design
 - MV system
 - MV Metering point - Local or council.
 - Current tariff scheme
 - MV switch room – Local or council
 - MV Bus-bare section (Single or double bus) (switch gear, type and area of supply)

- Transformer, size, load and type. Indicate spare capacity
- Supply and feeder cables Type, size and load. Indicate spare capacity
- Overhead lines system. Type and size
- LV Network
 - LV Room
 - Generator Capacity, Type size and indicate spare capacity
 - Main LV Distribution board
 - Metering point – current tariff scheme
 - PSCC values of each DB and KA rating of protection Circuit breakers
 - SLD off all circuits and feeders, cable size and capacity
 - LV kiosk location and number
 - LV Sub distribution boards
 - LV Cables sizes and capacity
 - LV OHL Size and capacity
- SUB LV Distribution boards
 - PSCC values of each DB and kA rating of protection Circuit
 - List of feeders and indicate spare capacity and possibility for additional load
 - ID Area of supply
 - DB's Position is it accessible as per statutory requirements
 - Do labeling comply with SANS requirements
 - Supply and feeder cable sizes
 - Earthing and Lighting system
 - SLD of BD layout and provide CB size, kA rating

- Schedule of cables
 - MV
 - LV

- Schedule of Distribution boards
 - SLD
 - Equipment
 - Name / Number of distribution boards, Main and Sub DB's, Normal and Essential sections. With load calculations
 - Type and size. (Floor unit, Wall mounted Flush or surface and height)

- Schedule of Breakers
 - Motor control centers (MCC)
 - Lifts
 - AC Plants and Units
 - Fire booster Pumps systems
 - Sump Pumps
 - Provision of isolators for
 - AC Units
 - Extractor fans
 - Kitchen Equipment
 - Hydro Boil
 - Geyser etc.

- Schedule of Light fittings
 - Type of Luminaires, size in watts, energy efficient, Lux levels as per SANS etc.
 - Luminaire data sheet and Floor plan of typical rooms.
 - Type of Emergency luminaires, battery backup and backup time, size in watts etc.

- Socket outlets, Normal, Dedicated and Emergency
 - Power skirting, Type (Please note no PVC to be used)
 - Conduit and Wire Ways, Type and position (please note no PVC to be used)
 - UPS
 - Generator Load
 - Generators: replacement, noise control, fumes, ability to fill/ refill tanks- requirement of EIA, need for fuel trap, bund wall. Accessibility for refuelling etc. to be considered
 - Kind of structure required to house pumps and fuel tanks, architectural co-ordination to design to be done
 - PABX System
 - Security System
 - Earthing and Lightning Protection
 - Energy Efficiency
 - Type of light fittings
 - Type of AC system. Method of starting (sequential starting?)
 - Method of control system, occupancy sensors, BMS etc.
- (f) When PV panels are suggested as part of the design the following shall be provided as part of the preliminary design report:
- For the approval of the Sketch Plan and PDR's, PV solar panels system must address in full what is proposed to be installed and full design , cost and potential savings with the payback period must be incorporated to ensure cost effective design and solution for each building. The solar panel PV design shall include number of reis (Strings), number of PV panels ,size and weight, size of DC cables, DC Circuit breakers and kA rating, PV design

layout drawings, the manner in which the PV connect to normal supply, signal for convertors and single line diagram.

- Eskom or local supply authorities by-laws on feeding back in to their system must be indicated and strictly followed to ensure a safe alternative supply to each building and future revenue by selling power back into the grid.(As government we are not allowed to sell electricity.
- All PV systems to be metered with Quality of supply meters to verify KWH, KWp generated into the system from the PV System. (Metering of normal power and PV power system separately)
- Type of system – Grid system or grid tied system? To be indicated before the design method.
- Maintenance of PV System must be provided: i.e. Type of maintenance, frequency and replacement cost. Total ownership cost
- Estimated life span of PV system / replacement period and cost must be provided: i.e. Design life of PV system, Life expectancy of PV Panel, Batteries, AC/DC Converters, Surge protection.
- All hot water systems to be solar backup with electrical supply. Heat pumps to be considered instead of solar as a more energy efficient solution.
- If the financial viability and payback is between 3-5 years it can be regarded as a cost effective system and the inclusion can be considered provided that the Client agrees with the costs and funding. If the payback exceeds 7 years it is not a financial viable option.
- The financial viability of solar PV is dependent on a number of different factors and shall be indicated as such in the design report:

- Installation size: larger projects produce cheaper electricity as fixed costs, such as design and specification, are spread over more panels.
- Technology choice and exchange rate: prices still vary and some components need to be imported.
- Location, roof type and direction: influence the amount of sun reaching the solar panels.
- Financing model: depends on the client's risk profile or financial standing.
- Current electricity tariff: solar PV's viable increases as electricity tariffs increase.
- Consumption patterns: Eskom charges a peak charge during periods of highest use (typically, in a business context, during the day). Generating one's own electricity (also most effective during sunny periods) results in greater savings. Identify the base load, loads the will use PV and supplement Eskom power.
- When PV panels are installed the roof footprint shall be sufficient for a cost effective PV installation.
- Mechanical Heating and Cooling is a huge factor on the electrical load. Thermal heating and cooling via Solar systems to be considered as part of the 20 % renewable energy efficient systems.

(g) Cost Estimate

- Itemized BOQ with detail. List all items. If electrical engineer is responsible for the BOQ or obtain from QS before submission
- P&G - (only on an engineering contract)
- Contingencies – (as above)
- No provisional sums
- No rate only items

- (h) List of Drawings
 - Site plan / location plan
 - Power layout (Main Supply)
 - Light Layout
 - Small Power layout, sockets, Isolators
 - Telephone and Data point layout
 - Distribution board layout
 - Security wire way layout
 - Power skirting / wire way layout

C. Guidelines: Preliminary Design Drawings

1. Table of Contents

- DPWI drawing number
- DPWI Title block (available on website under Architect info)
- DG Name
- Discipline: Electrical
- Description: Project name
- Title: Electrical Light layout etc.
- Legend: Top right corner with full description of item. (Standard use NRS 0002 electrical Symbols)
- Notes: Top right just under the legends.
- North point: Bottom right corner
- Circuit description and supply from DB

2. Site plan / Location plan

- List of Drawings
- North Point bottom right
- Existing Electrical services
 - MV/ LV Point of supply
 - MV/ LV Cables
 - LV Distribution Boards / Kiosk's

3. Electrical Layout

- Power Supply layout – (Services to and on site)
- Light Layout
- Small Power layout, sockets, Isolators
- Telephone and Data point layout
- Distribution board layout
- Distribution diagram (single line for whole network and DB design)
- Security wire way layout
- Power skirting / wire way layout for security, fire protection, electrical, data, telephone

D. Guidelines for Status Quo, Preliminary Design Reports and drawings for lift installations/ services

Note: This guideline must not be used as a template but serve as a guide on information required per service.

Status quo report, Preliminary design reports and drawings requirements:

1. Signing off the report by the design electrical/mechanical/electronic Engineer/ Lift designer of the lift installation as well as the responsible registered electrical/mechanical/electronic engineer/technologist / lift inspector that approves the report. With his ECSA registration number

- Name:
- ECSA Registration Nr:
- Category of registration
- Signature:
- Date:

2. Status Quo Report

Existing Lifts

- (a) Type of lift (passenger / goods lift, books Hoist)
- (b) Position of the motor – (Lift motor room, bottom, top of cage (Lift car)
- (c) Type of motor system
- (d) Position of main control board
- (e) Access to main control room/ panel locked / labelled etc. to comply with lift regulations and GMR. (OHSA)
- (f) Interior finishes
- (g) Age of lift
- (h) The current status of the lift (full photo report identifying the noncompliance and provide proposal to address the defects / confirm information / condition)

(i) **All the info on annexure B.**

- Date of installation (new, latest upgrade)
- Lift speed,
- Load in Kg and Number of persons
- Number of floors / stops
- Emergency number

(ii) **Condition of all systems**

- Rope drum
- Counterweights
- Guides
- Safety systems, Doors, landing etc.
- Taco speed control system
- Door control system
- Buttons on landing areas and in lift, condition, working, disable friendly etc.
- Landing level
- Put lights
- Car lights
- Ventilation
- Disable systems, Buttons, voice announce system etc3.

(iii) **Recommendations**

- To upgrade
 - i. Complete lift full motivation with full photo report identifying the noncompliance and provide proposal to address.
 - ii. Pascal upgrade full motivation what portion, with what type of system, what part of the lift to be upgraded, with full photo report identifying the noncompliance and proposal to address the items.

iii. Total New Lift – the above SQ report (full photo report identifying the noncompliance and provide recommendations why new lift is required) Non availability of spears is not a resin why a lift needs to be replaced.

- Name of the approved lift inspector, ECSA nr, Pr nr and category of registration.
- Comprehensive test report of lift inspector
- Rope report
- Traffic volume report addressing the number of people using the lift in peak and non-peak periods of the day. – recommended the speed of lift
- List of existing drawings

3. Drawings

- (a) Number of landings
- (b) Size of existing shaft
- (c) Size of lift car/ cage
- (d) Position of doors in shaft/ landing area
- (e) Type of doors
- (f) Position of control buttons and type
- (g) Position of main Isolator / CB / control board
- (h) Shaft light layout
- (i) Main control layout
- (j) Main DB Layout
- (k) Lift / car motor layout
- (l) Landing floor layout. (indicating all the stops / floors levels for the lift)

4. PDR

- (a) For the existing lift all the items in the SQ report needs to be addressed in the design report to upgrade, replace existing lift.
- (b) New design full motivation on the type of building and the requirements of the lift,

- (i) Position and number of lifts required for the building
- (ii) Name of the approved lift designer ECSA nr, Pr nr and category of registration.
- (iii) Traffic volume report addressing the number of people using the lift in peak and non-peak periods of the day. – recommended for the number and speed of lift
- (iv) Type of lift required for the building (Fire man's lift, passenger lift / goods lift, books Hoist etc.)
- (v) Position of the motor for new lift – (Lift motor room, bottom, top of cage (Lift car).
- (vi) Type of motor system.
- (vii) Position of main control board.
- (viii) Access to main control room/ panel locked / labelled etc. to comply with lift regulations and GMR. (OHSA)
- (ix) Interior finishes of new lift
- (x) New lift
 - Lift speed,
 - Load in Kg and Number of persons
 - Number of floors / stops
 - Emergency number (in lift car and at each landing Foyer)
- (xi) Full design and design calculation of all lift systems (reference to SANS code for type of lift designed)
 - Number of Ropes, size and weight (Capacity of rope)
 - Rope drum system
 - Counterweights
 - Guides
 - Safety systems, Doors, landing etc.
 - Taco speed control system
 - Door control system
 - Buttons on landing areas and in lift (disable friendly etc.)
 - Landing level tolerance
 - Put lights

- Car lights
 - Ventilation system
 - Disable systems, Buttons, voice announce system etc.
- (c) List of drawings.

5. New Drawings

- (a) Number of landings
- (b) Size of shaft
- (c) Size of lift car/ cage
- (d) Position of doors in shaft/ landing area
- (e) Type of doors
- (f) Position of control buttons and type
- (g) Position of main Isolator / CB / control board
- (h) Shaft light layout
- (i) Main control layout
- (j) Main DB Layout
- (k) Lift / car motor layout
- (l) Landing floor layout. (indicating all the stops / floors levels for the lift)

6.3.12

PM 006-8

Mechanical Engineering (Air-conditioning and Other Mechanical Installations including Fire Protection)

Consultant Mechanical Engineer to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :	
		REFERENCE NO:	
		Yes	No
1	The preliminary design has been completed in terms of conditions	<input type="checkbox"/>	<input type="checkbox"/>
2	Preliminary design report has been attached, see attached guideline and also refer to the engineer's manual	<input type="checkbox"/>	<input type="checkbox"/>
3	The design has been coordinated with architect. Note: see engineer's manual for preliminary design documents	<input type="checkbox"/>	<input type="checkbox"/>
4	The departmental engineer has been consulted	<input type="checkbox"/>	<input type="checkbox"/>
5	The departmental engineer's comments have been incorporated into the design, if not, state reasons below:	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____			

NAME Consultant Mechanical Engineer	SIGNATURE
FIRM/ COMPANY	DATE

For completion by the Principal Agent					
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Yes</td> <td style="text-align: center; padding: 5px;">No</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> </table>	Yes	No	<input type="checkbox"/>	<input type="checkbox"/>
Yes	No				
<input type="checkbox"/>	<input type="checkbox"/>				
NAME	SIGNATURE				
FIRM/ COMPANY	DATE				
For completion by DPWI Mechanical Engineer					
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted					
NAME	SIGNATURE				
DATE					

6.3.14 Mechanical Engineering Documentation Required

Mechanical Engineering Services: General Requirements for SPM

1. Proof must be provided by the consultant on the following:
 - (a) Consultants appointment brief
 - (b) Liaisons with Departmental professional team
 - (c) Liaisons with consultant team, principle agent architect etc.
 - (d) Liaison with client department e.g. letter from client department indicating areas to be air conditioned, fire suppression, security, etc.
 - (e) Liaison with local authorities for any approvals required for equipment
 - (f) Demonstrated co-ordination with Architect's work

2. Detailed preliminary design report which should incorporate:
 - (a) Type of installations required, together with standards and design criteria clearly referenced to DPWI or other guideline documentation, deviations clearly indicated and motivated
 - (b) Detailed description of installations to be provided. E.g. type of equipment, description, energy efficient equipment used, etc.
 - (c) Detailed cost estimates from itemized BOQ, including P&Gs and Contingencies, but no provisional sums or rate-only items
 - (d) Life cycle cost analysis of alternative type of installations/equipment inclusive of maintenance – at least two options at high-level analysis
 - (e) SANS, local and national legal requirements for project, e.g. fire detection, sprinklers, ventilation, etc. and verification of compliance

3. Line drawings referencing the latest available architectural drawings as a minimum, to indicate proposed equipment positions, type and architectural requirements for e.g. plant rooms, service ducts, routes of pipes and ducting, etc., together with the following:
 - (a) Project No:
 - (b) Drawing Title:

- (c) Drawing Number / Sheet:
 - (d) Revision:
 - (e) Date:
4. Signing off of all drawings and documents by the designer / draftsman of the mechanical services drawing or document, the checker, as well as the accountable registered professional engineer or technologist:
- (a) Name:
 - (b) ECSA Registration No:
 - (c) Signature:
 - (d) Date:
5. Document & Drawing Schedule, including revisions / dates for submission

5.1 Heating

- 5.1.1 Basis of Design showing all loads, users, demands, energy and requirements, based on rational design by accredited competent person
- 5.1.2 Identification of all local and national authorities holding jurisdiction, including all licencing, inspection, registration, logging and permitting requirements
- 5.1.3 Site environmental conditions and requirements
- 5.1.4 Block / Flow Diagrams showing equipment, inputs, outputs, users and flow information (including pressures, temperatures and volume / mass flow)
- 5.1.5 Process Overview, describing operation of systems, controls and interfacing
- 5.1.6 Site Location / Layout Drawing and General Arrangement Drawings together with equipment locations, pipe and duct drawings, showing relative routing and planning
- 5.1.7 Schedule of Standards and Specifications, including SANS, DPWI, etc.
- 5.1.8 Equipment Schedule, including boilers, geysers, heat-pumps, solar-panels, pumps, fans, radiators, etc. as required
- 5.1.9 Materials Handling facilities, including fuel, ash, grits and effluent operations
- 5.1.10 Water Treatment facilities, dosing, replacement and testing required
- 5.1.11 Plant & equipment emissions and mitigation measures

- 5.1.12 Schedule of Utilities, Chemicals and Lubricants required for Operations & Maintenance
- 5.1.13 Schedule of Resources, Operators, spares and tools required for Operations & Maintenance, including special servicing requirements and logbooks
- 5.1.14 Electrical Load Schedule with motor start-up, nominal and running requirements
- 5.1.15 Electrical Backup and UPS requirements and measures
- 5.1.16 Electrical Control Panels and Suppression requirements and measures
- 5.1.17 Instrumentation & Control devices, panels, interfaces and measures
- 5.1.18 Pressure Equipment Regulations and design pertaining to equipment, as required
- 5.1.19 Schedule / Bill of Quantities for equipment, piping, ducting, flues, insulation, corrosion protection, supports, materials and fittings
- 5.1.20 All expected direct Greenhouse Gas (GHG) emissions and Global Warming Potential of chemicals used in systems
- 5.1.21 All indirect GHG emissions, maximum and expected over time
- 5.1.22 Noise Attenuation Specifications and Control measures
- 5.1.23 Heat Control measures
- 5.1.24 Stress Analysis requirements for equipment, pipework and supports, and measures
- 5.1.25 Energy (kWh/m²/annum), Water (kl/m²/annum) & Utilities savings measures
- 5.1.26 Occupational Health and Safety hazards and measures
- 5.1.27 Fire Protection hazards and measures
- 5.1.28 Civil & Structural dead and live loads, supports, plinths, as well as location and accessibility requirements
- 5.1.29 Metering of inputs, outputs, utilities, and energy as required
- 5.1.30 Construction requirements and special installation and rigging measures
- 5.1.31 Commissioning, Functional & Performance Testing Overview

5.2 Ventilation

- 5.2.1 Basis of Design shall consider room occupancy, air-changes or volume per person, based on rational design by accredited competent person
- 5.2.2 Site Location / Layout Drawing and General Arrangement Drawings together with equipment locations and ducting drawings, showing relative routing and planning
- 5.2.3 Block / Flow Diagrams showing equipment, inputs, outputs, users and flow information (including pressures, temperatures and volume / mass flow)
- 5.2.4 Consideration to be given to natural or artificial ventilation, as required
- 5.2.5 Consideration to be given to air filtration and purification to minimise airborne contaminants and transmission of infection, as required
- 5.2.6 Consideration to be given to ventilation heat recovery, where feasible
- 5.2.7 Consideration to be given to instrumentation to monitor and control air quality
- 5.2.8 In air recirculation systems, due consideration to be given to fresh air, return air and exhaust air provisions for optimal energy efficiency as well as internal air quality
- 5.2.9 Extraction systems from toilets and kitchens shall discharge via separate ducts
- 5.2.10 Site environmental conditions and requirements should be considered
- 5.2.11 Process Overview, describing operation of systems, controls and interfacing
- 5.2.12 Schedule of Standards and Specifications, including SANS, DPWI, etc.
- 5.2.13 Equipment Schedule, including fans, filtration, sterilization and purification units
- 5.2.14 Electrical Load Schedule with motor start-up, nominal and running requirements
- 5.2.15 Electrical Backup and UPS requirements and measures
- 5.2.16 Instrumentation & Control devices, panels, interfaces and measures
- 5.2.17 Schedule / Bill of Quantities for equipment, ducting, insulation, corrosion protection, supports, materials and fittings
- 5.2.18 Noise Attenuation Specifications and Control measures
- 5.2.19 Occupational Health and Safety hazards and measures
- 5.2.20 Fire Protection hazards and measures

5.2.21 Civil & Structural dead and live loads, supports, plinths, as well as location and accessibility requirements

5.2.22 Construction and installation requirements

5.2.23 Commissioning, Functional & Performance Testing Overview

5.3 Air-conditioning

5.3.1 Basis of Design to consider heating and cooling loads, min/max occupancy, internal air quality and energy, based on rational design by accredited competent person and-or using certified calculation software (Board of Agrément South Africa)

5.3.2 Site environmental conditions to consider maximum and minimum coincident dry bulb and wet bulb temperatures for winter and summer IAQ design

5.3.3 Site Location / Layout Drawing and General Arrangement Drawings together with equipment locations, pipe and duct drawings, showing relative routing and planning

5.3.4 Block / Flow Diagrams showing equipment, inputs, outputs, users and flow information (including pressures, temperatures and volume / mass flow)

5.3.5 Process Overview, describing operation of systems, controls and interfacing

5.3.6 Local room temperature control and interface with Building Management System

5.3.7 In air recirculation systems, due consideration to be given to fresh air, return air and exhaust air provisions for optimal energy efficiency as well as internal air quality

5.3.8 Schedule of Standards and Specifications, including SANS, DPWI, etc.

5.3.9 Equipment Schedule, including chillers, indoor / outdoor units, heat-pump provisions, heaters, air-handling units, fan coil units, pumps, fans, radiators, etc. as required

5.3.10 Diffuser air flow volume, flow and throw with respect to positioning in the room to be considered. Necessity of alternative provision such as air curtains to be considered

5.3.11 Water Treatment facilities, dosing, replacement and testing, as required

- 5.3.12 Schedule of Utilities, Chemicals and Lubricants required for Operations & Maintenance
- 5.3.13 Schedule of Resources, Operators, spares and tools required for Operations & Maintenance, including special servicing requirements and logging
- 5.3.14 Electrical Load Schedule with motor start-up, nominal and running requirements
- 5.3.15 Electrical Backup and UPS requirements and measures
- 5.3.16 Electrical Control Panels and Suppression requirements and measures
- 5.3.17 Instrumentation & Control devices, panels, interfaces and measures
- 5.3.18 Pressure Equipment Regulations and design pertaining to equipment, as required
- 5.3.19 Schedule / Bill of Quantities for equipment, piping, ducting, insulation, corrosion protection, supports, materials and fittings
- 5.3.20 All direct Greenhouse Gas (GHG) emissions and Global Warming Potential of chemicals used in systems
- 5.3.21 All indirect GHG emissions, maximum and expected over time
- 5.3.22 Noise Attenuation Specifications and Control measures
- 5.3.23 Air, Heating and Chilling leakages control measures to be proposed
- 5.3.24 Condensate handling from chiller plant, air handling units and fan coil units, as well as collection, handling, reticulation, and discharge points, as required
- 5.3.25 Hydraulic and pneumatic analysis for equipment, ductwork and pipework, as required
- 5.3.26 Return air / exhaust air management potential for energy scavenging from waste air to be investigated, as required
- 5.3.27 Energy (kWh/m²/annum), Water (kl/m²/annum) & Utilities savings measures
- 5.3.28 Off-peak electricity rates for heating and cooling to be investigated
- 5.3.29 Occupational Health and Safety hazards and measures
- 5.3.30 Fire Protection hazards and measures
- 5.3.31 Civil & Structural dead and live loads, supports, plinths, as well as location and accessibility requirements
- 5.3.32 Metering of inputs, outputs, utilities, and energy as required

5.3.33 Construction requirements and special installation and rigging measures

5.3.34 Commissioning, Functional & Performance Testing Overview

5.4 Wet Services

5.4.1 Basis of Design to include preliminary assessment of hot and cold water usage within building, per function or purpose of facilities, and water demand per category, based on rational design by accredited competent person

5.4.2 Water supply design standards in terms of materials, hydraulic specification, velocity, pressure limits and roughness coefficients

5.4.3 Block / Flow Diagrams showing equipment, inputs, outputs, users and flow information (including pressures, temperatures and volume / mass flow)

5.4.4 Site Location / Layout Drawing and General Arrangement Drawings together with tie-in point equipment locations and piping drawings, showing routing and planning

5.4.5 General arrangement and design basis for water supply or booster pump stations, including operational control and standby capacity, as may be required

5.4.6 Consideration to be given to water disinfection, filtration and purification, as required

5.4.7 Consideration to be given to rainwater harvesting, treatment and distribution for re-use in non-potable water applications, as required

5.4.8 Consideration to be given to Grey-water harvesting, treatment and distribution for re-use in non-potable water applications, as required

5.4.9 Consideration to be given to Black-water harvesting, treatment and distribution for re-use in non-potable water applications, as required

5.4.10 Consideration to be given to hot and cold water tie-ins and storage requirements

5.4.11 Consideration of municipal requirements regarding fixtures and consumption limits

5.4.12 Process Overview, describing operation of systems, controls and interfacing

5.4.13 Schedule of Standards and Specifications, including SANS, DPWI, etc.

- 5.4.14 Electrical Load Schedule with motor start-up, nominal and running requirements
- 5.4.15 Instrumentation & Control devices, panels, interfaces and measures
- 5.4.16 Schedule / Bill of Quantities for equipment, piping, corrosion protection, supports, materials and fittings, including specifications
- 5.4.17 Occupational Health and Safety hazards and measures
- 5.4.18 Metering of water input and distribution for monitoring as required
- 5.4.19 Construction and installation requirements
- 5.4.20 Commissioning, Functional & Performance Testing Overview

5.5 Fire Protection

- 5.5.1 Basis of Design will assess the risks presented in the proposed building and recommend the most suitable fire safety provisions as per the overall concept and occupancy, based on rational design by accredited competent person
- 5.5.2 Identification of all local and national authorities holding jurisdiction, including all licencing, inspection, registration, logging and permitting requirements
- 5.5.3 Consideration shall be given to the Local Fire Authority regulations and the degree of assistance available from the Authority
- 5.5.4 The facility classification in terms of fire risk shall determine the fire flow requirements with reference to Departmental or Fire Authority standard
- 5.5.5 Site Location / Layout Drawing and General Arrangement Drawings with equipment locations and piping drawings, showing routing and planning, together with tie-in point and layout drawing with position of municipal hydrants adjacent to site
- 5.5.6 Process Overview, describing operation of systems, controls and interfacing
- 5.5.7 Integration with Instrumentation & Control devices, detectors and panels (by Others)
- 5.5.8 Schedule of Standards and Specifications, including SANS, DPWI, etc.
- 5.5.9 Equipment Schedule, including fire extinguishers, hose reels, sprinklers, hydrants, booster pumps, water tanks, dampers, fans, signage and gas suppression systems

- 5.5.10 Schedule / Bill of Quantities for equipment, piping, corrosion protection, supports, materials and fittings, including specifications
- 5.5.11 Fire Water Treatment facilities, dosing, servicing and testing, as required
- 5.5.12 Schedule of Utilities, Chemicals required for Operations & Maintenance
- 5.5.13 Schedule of Resources, Operators, spares and tools required for Operations & Maintenance, including regular servicing requirements, intervals and logging
- 5.5.14 Occupational Health and Safety hazards and measures
- 5.5.15 Construction and installation requirements
- 5.5.16 Commissioning, Functional & Performance Testing Overview
- 5.5.17 Full design must be approved by qualified and registered Fire Protection practitioner

6.3.13

PM 006-9

Electronic Engineering (All Electronic Installations and Fire Detection)

Consultant Electronic Engineer to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT: _____ **WCS NO :** _____
 _____ **REFERENCE NO:** _____

		Yes	No
1	The preliminary design has been completed in terms of conditions	<input type="checkbox"/>	<input type="checkbox"/>
2	Preliminary design report has been attached, see attached guideline and also refer to the engineer's manual	<input type="checkbox"/>	<input type="checkbox"/>
3	The design has been coordinated with architect. Note: see engineer's manual for preliminary design documents	<input type="checkbox"/>	<input type="checkbox"/>
4	The departmental engineer has been consulted	<input type="checkbox"/>	<input type="checkbox"/>
5	The departmental engineer's comments have been incorporated into the design, if not, state reasons below:	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NAME Consultant Electronic Engineer

SIGNATURE _____

FIRM/ COMPANY _____

DATE _____

For completion by the Principal Agent		
	Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>
NAME _____	SIGNATURE _____	
FIRM/ COMPANY _____	DATE _____	
For completion by DPWI Electrical Engineer		
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted		
NAME _____	SIGNATURE _____	
DATE _____		

6.3.14 Guidelines for Status Quo Report for Electronic Services

Note: This guideline must not be used as a template but serve as a guide on information required per service.

1. Status quo requirements:

Signing off the report by the design electrical/mechanical/electronic Engineer of the electronic services as well as the responsible registered electrical/mechanical/electronic engineer/technologist that approves the report. With his ECSA registration number

- (a) Name:
- (b) ECSA Registration Nr:
- (c) Signature:
- (d) Date:

2. Index:

- (a) Site description
- (b) General use of building
 - (i) Offices
 - (ii) Sleeping units
 - (iii) Operations Command Centre
 - (iv) Training facilities, etc.
- (c) Standards required and applicable to the security and fire detection installation.
- (d) Indicate existing electronic services and if the installation was provided by Public Works or User Department:
- (e) Indicate condition of the electronic installation(all elements and equipment)
- (f) Proposed correctional action / Design requirements to upgrade and or to replace / repairs required.
- (g) Cost for repairs, maintenance and or upgrades

- (h) Recommendation on each electronic element.
 - (i) CCTV system
 - (ii) Access control(Biometric/card readers)
 - (iii) Fire detection system(smoke/heat detectors, alarm panels, manual alarm buttons)
 - (iv) Building Management System
 - (v) Public Address system.
 - (vi) UPS?

- (i) Photo Report

F. Guidelines: Preliminary Design Drawings for Electronic Services

Index:

1. General drawing requirements

- (a) DPWI drawing number
- (b) DPWI Title block (available on website under Architect info)
- (c) DG Name
- (d) Discipline: Electronic
- (e) Description: Project name
- (f) Title: CCTV layout etc.
- (g) Legend: Top right corner with full description of item. (Standard electronic Symbols)
- (h) Notes: Top right just under the legends.
- (i) North point: Bottom right corner

2. Site plan / Location plan

- (a) List of Drawings
- (b) North Point bottom right
- (c) Electronic Services
 - (i) Control panel access control/CCTV
 - (ii) Control panel fire detection

- (iii) Control panel public address
- (iv) Control panel BM system

3. Electronic Layout

- (a) Security and access control.
- (b) Fire detection
- (c) Public Address system
- (d) UPS requirement(if not provided by electrical engineer)

G. Guidelines: Preliminary Design Report for Electronic Services

Note: This guideline must not be used as a template but serve as a guide on information required per service.

1. Preliminary design requirements:

Signing off the report by the design electrical/mechanical/electronic Engineer of the electronic services as well as the responsible registered electrical/mechanical/electronic engineer/technologist that approves the report. With his ECSA registration number

- (a) Name:
- (b) ECSA Registration Nr:
- (c) Signature:
- (d) Date:

2. Introduction / Background

Professional service provider is appointed to (Describe scope of work)

- (a) Site description
- (b) Confirmation of existing electronic services

3. Scope of work

- (a) User requirements
- (b) SAPS security advisory services requirements.
- (c) **(above requirements to be obtained prior to the electronic design)**

- (d) The electronic services scope of work for the new office building will comprise the following. (List all items required for the electronic works)
 - (i) Fire detection system
 - (ii) Public address and emergency voice evacuation system
 - (iii) Access control system
 - (iv) Vehicle access control
 - (v) Video surveillance system
 - (vi) Walkthrough metal detectors and parcel X-ray scanners.
 - (vii) Building Management system

- (e) The following services are excluded from the scope of work (List items not provided for in the electronic works design):
 - (i) Gas fire suppression system
 - (ii) ICT network including active switching equipment
 - (iii) Internet and telephone service provider connections
 - (iv) The wire way and conduit installation will be done under the electrical contract.

4. Standards

The following standards will be used as design guidelines (List all standards required for the electronic works):

- (a) SANS 10139: 2012 Edition 3.2 - Categorization of Fire Protection Systems and SANS 322.
- (b) SANS 10222-1:2013 Part 1 and 2 Access Control
- (c) SANS 7240-16 and SANS 7240-19 – Public address system
- (d) SANS 10400 – National Building Regulations

5. Design methodology

(List all items applicable in the methodology for the electronic works):

- (a) Fire detection system
- (b) Public address and emergency voice evacuation system
- (c) Access control system
- (d) Vehicle access control
- (e) Video surveillance system

- (f) Walkthrough metal detectors and parcel X-ray scanners.
- (g) Building management system

6. Equipment proposal

(List all equipment proposed for the electronic works. Note that no trade names are allowed):

- (a) Fire detection system
- (b) Public address and emergency voice evacuation system
- (c) Access control system
- (d) Vehicle access control
- (e) Video surveillance system
- (f) Walkthrough metal detectors and parcel X-ray scanners.
- (g) Building management system
- (h) Cabling system for the various electronic services

7. Equipment parameters

(List the parameters of the equipment proposed for the electronic works):

- (a) Fire detection system
- (b) Public address and emergency voice evacuation system
- (c) Access control system
- (d) Vehicle access control
- (e) Video surveillance system
- (f) Walkthrough metal detectors and parcel X-ray scanners.
- (g) Building management system

8. Cost Estimate

- (a) Itemized BOQ with detail. List all item
- (b) (If electrical/electronic/mechanical engineer is responsible for the BOQ or obtain from QS before submission)
- (c) P&G - (only on an engineering contract)
- (d) Contingencies – (as above)
- (e) No provisional sums.
- (f) No rate only items

9. **List of Drawings**

- (a) (Provide list of drawings for all the electronic services)
- (b) Site plan / location plan
- (c) Security and access control.
- (d) Fire detection
- (e) Public Address system
- (f) Lift

6.3.15.

PM 006-10

Quantity Surveying

Consultant Quantity Surveyor to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT: _____ **WCS NO :** _____
REFERENCE NO: _____

		Yes	No
1	Elemental cost estimate is attached & is aligned with latest architectural & other engineering consultants' designs	<input type="checkbox"/>	<input type="checkbox"/>
2	Detailed report if present estimate differs from previous estimate by more than 5%	<input type="checkbox"/>	<input type="checkbox"/>
3	Proposals of changes to be effected to ensure that the project is within the requires budget	<input type="checkbox"/>	<input type="checkbox"/>
4	Projected cash flow, including professional fees	<input type="checkbox"/>	<input type="checkbox"/>
3	The departmental quantity surveyor has been consulted	<input type="checkbox"/>	<input type="checkbox"/>
4	It is confirmed that the above documents are attached and have been prepared in accordance with the Manual for Consultant Quantity Surveyors (QS001) and the conditions of appointment	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NAME Consultant Quantity Surveyor

SIGNATURE

FIRM/ COMPANY

DATE

For completion by the Principal Agent

	Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>

NAME _____ SIGNATURE _____

FIRM/ COMPANY _____ DATE _____

For completion by DPWI Quantity Surveyor

For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted

NAME _____ SIGNATURE _____

DATE _____

6.3.16 Quantity Surveying Documentation Required

Quantity Surveying Services: General Requirements for Sketch Plan Meeting

- 1. Supporting documentation must be provided in relation to the following aspects:**
 - 1.1 That the building design is the most cost-effective with regard to the need of the client and that it is indeed value for money.
 - 1.2 Any special and/or expensive designs must be highlighted with an indication of the additional cost for such design.
 - 1.3 Finishes are the most cost-effective, taking into account the cost of materials, the life-cycle thereof etc.
 - 1.4. The cost of all specialist installations have been analysed and have been discussed with the relevant engineer(s), and
 - 1.4.1 That the systems are those required for the proper functioning of the buildings, and
 - 1.4.2 That it is value for money. (Consultants should not specify the “top of the range” systems if it is not required.)
- 2. The consultant QS must submit his/her estimate and cash-flows to the Departmental QS well in advance of the SPC meeting.**

6.3.17

PM 006-11

Town Planning

Consultant Town Planner/ PA to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :			
		REFERENCE NO:			
		Yes	No		
1	Site layout, showing site boundaries, parking, access	<input type="checkbox"/>	<input type="checkbox"/>		
2	Title deed, Surveyor General diagrams, servitudes	<input type="checkbox"/>	<input type="checkbox"/>		
3	Geotechnical study conducted	<input type="checkbox"/>	<input type="checkbox"/>		
4	Mapping of site (contours, structures, aerial photo)	<input type="checkbox"/>	<input type="checkbox"/>		
5	Position of sewage treatment solution (piped, other)	<input type="checkbox"/>	<input type="checkbox"/>		
6	Position of water supply solution (piped, bore hole)	<input type="checkbox"/>	<input type="checkbox"/>		
7	Position of electrical supply point(s)	<input type="checkbox"/>	<input type="checkbox"/>		
8	Environmental Authorization (EIA) if applicable	<input type="checkbox"/>	<input type="checkbox"/>		
9	Existing land use rights (zoning) information	<input type="checkbox"/>	<input type="checkbox"/>		

I hereby confirm that I complied with requirements of the Site Clearance Certificate

NAME Consultant Town Planner/ PA

SIGNATURE

FIRM/ COMPANY

DATE

For completion by the Principal Agent			
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	Yes	<input type="checkbox"/>
NAME	SIGNATURE		
FIRM/ COMPANY	DATE		
For completion by DPWI Town Planner			
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted			
NAME	SIGNATURE		
DATE			

6.3.18.

PM 006-12

Landscape Architectural

Consultant Landscape Architect to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :	
		REFERENCE NO:	
		Yes	No
1	The landscape design development was completed in line with landscape design requirements, if not, state motivation below	<input type="checkbox"/>	<input type="checkbox"/>
2	The attached Landscape Development Plan (LDP) with sections & elevations complies with LDP requirements	<input type="checkbox"/>	<input type="checkbox"/>
3	Landscape Development Report (LDR) has been completed to LDR requirements and is attached	<input type="checkbox"/>	<input type="checkbox"/>
4	The design has been coordinated with architect	<input type="checkbox"/>	<input type="checkbox"/>
5	The departmental landscape architect has been consulted	<input type="checkbox"/>	<input type="checkbox"/>
6	The departmental consultants' comments have been incorporated into the design, if not, state motivation below	<input type="checkbox"/>	<input type="checkbox"/>

NAME Consultant Landscape Architect

SIGNATURE

FIRM/ COMPANY

DATE

For completion by the Principal Agent		Yes	No
	Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>
NAME		SIGNATURE	
FIRM/ COMPANY		DATE	
For completion by DPWI Landscape Architect			
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted			
NAME		SIGNATURE	
DATE			

6.3.19 Landscape Architectural documentation requirements

- (1) The LDP and LDR serves to document and motivate the landscape design development design and directly relates to the completion of Work Stage 2 of the Scope of Work of the professionally registered Landscape Architect, as described in the Department's letter of appointment (see item 4.c, p.13). The design as documented and motivated should thus fulfill in all requirements in this regard
- (2) The professionally registered LA consultant should ensure that the departmental LA has sufficient project detail to enable him to evaluate and endorse work stage completion
- (3) General design conditions below serve to inform decision making and should be reflected in the Sketch Plan design. In the event of design conditions contradicting local authority guidelines, a design solution should be sought in consultation with local authority LA / official and the Departmental LA. The agreed outcome should be documented and clearly stated in the LDR
- (4) All design decisions should endorse and adhere to national legislation and environmental policies. Where existing on site scenarios stand in contradiction of such, it should be documented and clearly stated in the LDR with reference to the particular statute and brought to the attention of the PM

(5) Landscape Development Plan (LDP)

(a) In general the technical and academic quality should be acceptable and landscape design development draughting standards complied with. The LDP could include

- (i) Landscape Master/ Framework/ Phasing/ Precinct Plans
- (ii) Land-use planning (zones for conservation, rehabilitation, development, etc.)
- (iii) Landscape earthworks drawings in consultation with civil engineer (proposed contours, drainage etc.)
- (iv) Sketch/ Site Plans, Sections, Details, Thematic paving/ planting/ furniture design

(b) General Format

- (i) Maximum A1 size sheets
- (ii) Standard plain white bond paper only (for formal SP approval)
- (iii) Electronic submission of documentation should be in pdf format (for discussion during the scrutiny process). Dropbox or similar means of sharing information is supported
- (iv) Plan Scale: 1:100, 1:200, 1:250
- (v) Provide a line scale to all plans
- (vi) Departmental Title Block with the following info to be correctly depicted: Drawing number, WCS number, File Number
- (vii) If design development document constitutes more than one sheet a plan legend should be included
- (viii) Drawings Register in table format

(c) Site Information Required

- (i) Locality Plan: clearly indicating the position of the site in relationship to its surrounds, with a description of buildings

- and usage of adjacent sites. Also indicate sites such as Schools, Hospital, Municipal Buildings, Magistrates Court, Government buildings, streets and street names, pedestrian walks, parks, water courses etc. Scale: 1:1000; 1:500
- (ii) Landscape Master Plans and large scale planning and documentation 1:500 1:750, 1:1000
 - (iii) Landscape Plans, Sections & Elevations to scale: 1:200, 1:100, 1:50, 1:20
 - (iv) True North (north arrow)
 - (v) Boundaries of the site
 - (vi) Building lines to be indicated, dimensioned and labeled
 - (vii) Indicate position & width of any servitude or right of way to which the site is subject
 - (viii) The registered number/s or other description of the site and the erf/stand number/s
 - (ix) The street name / s on which such site abuts
 - (x) Location of any existing drain, storm water drain or, surface channel or attenuation facility on the site
 - (xi) Location of the new proposed building
 - (xii) Location of any existing buildings
 - (xiii) Indicate whether any of the existing buildings to be demolished & or any new proposed additions
 - (xiv) Indicate all access points, entrances, service entrances, visual and other connections between exterior and interior spaces.
 - (xv) Indicate access to the site (new & existing)
 - (xvi) Position of water storage tanks, sub-station, water treatment plants, sewerage treatment plants & other related.
 - (xvii) Wind direction (wind rose or similar diagram)
 - (xviii) Existing natural features (e.g. rocky outcrops, water courses, springs, wet lands etc.)
 - (xix) Existing cultural/ heritage resources or features

- (xx) Bench mark, grid system, datum point, reference point, landscape levels has to be coordinated with other disciplines
 - (xxi) Site contours to full extent of site and at preferred minimum intervals of 500mm
- (d) Plan Content
- (i) General structural details of the landscape should be documented sufficiently so that the structural elements of the landscape may be clearly understood
 - (ii) Indicate existing trees to remain and to be removed. Also indicate whether indigenous or exotic. Document trees with stem diameter of 100mm in this fashion. Tree clumps and groups of saplings may be indicated by means of hatching
 - (iii) Provide trunk/ tree stem diameter at approximately 1 meter above ground level, tree canopy (crown spread) diameter, height and general condition of tree
 - (iv) Indicate other vegetation/ ornamental plants of note to be removed or transplanted or retained
 - (v) Where existing natural indigenous vegetation occur or is removed the extent and specie composition of such should be documented
 - (vi) Indicate and distinguish between new tree, shrub, groundcover, climbers and turf grass species
 - (vii) Indicate introduced planting patterns, number of plants per m², container/ plant sizes and total quantities per species
 - (viii) Indicate at least both genus and species name in each case
 - (ix) Indicate if introduced species is exotic or indigenous to Southern Africa
 - (x) Use of exotics to be motivated in LDR
 - (xi) Regulations published related to the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) regarding invader species lists and control measures should

- be adhered to. The need for either compulsory control (category 1.a) or invasive species management programmes (category 1.b) should be discussed in LDR and specialist programmes included as appendices
- (xii) Indicate existing levels, new levels and level changes
 - (xiii) Proposed storm water management and attenuation systems and facilities (e.g. water drainage courses, swales, retention/ detention ponds, constructed wet lands etc.)
 - (xiv) Hard surfacing and paving. Differentiate between vehicular, parking and pedestrian traffic surfaces etc. and indicate level changes, kerbs, bollards and proposed edgings
 - (xv) Landscape architectural features incl. staircases, water features, pergolas, arbors, pavilions, podiums, amphitheaters, piers, boardwalks, gazebo's, stages etc.
 - (xvi) Water features including proposed mechanical design and systems design (e.g. biological, chemical etc.)
 - (xvii) Outdoor furniture theme incl. planters, art work, bicycle racks, tree grates, bollards, litter bins, seating, outdoor gym/play equipment etc.
 - (xviii) Outdoor thematic signage design
 - (xix) Landscape, pedestrian and street lighting theme
 - (xx) Include streetscape design, pedestrian crossings and other public landscape interventions where applicable
 - (xxi) Indicate building coverage, hard landscape coverage, turf grass cover, introduced planting cover, undisturbed natural vegetation cover and any other in square meter and expressed as percentages of the total site surface area, in table format
 - (xxii) All landscapes on levels other than natural ground (e.g. balconies, roof gardens etc.) should be included

(6) Landscape Development Report (LDR)

(a) In general the academic quality, language use and report writing should be of an acceptable standard. Images, diagrams and graphs should copy well in black and white for reproduction purposes

(b) Format

- (i) A4 white bond paper in portrait format only
- (ii) The cover page should include the project name, WCS number and File Number

(c) Content

The following main categories should be included and expanded upon:

- (i) Purpose (state project brief as supplied by PM and discussed/ finalized with client department and project architects)
- (ii) Background Studies
 - Documented site analysis
 - Context studies; precedent studies
 - Photos of typical or specific site characteristics – topography, access roads, vegetation, wetlands etc.
 - Locality of project including a large scale - provincial locality map and a small scale map showing locality in town
 - Design criteria clearly referenced to Departmental or other guideline documentation
 - Deviations from standards clearly indicated and motivated; recommendations and motivation for further investigations, surveys and servitudes
 - Heritage: Any significant heritage features/ structures to be reported to the DPWI Heritage Architect, PA and PM

- Environmental Impact Assessment:

- It is the responsibility of the consultant to confirm the following:
 - Application for exemption was made/
 - Scoping report was compiled and submitted/
 - Full EIA process is required by DFFE and has been initiated/
 - ROD was obtained

- (iii) Development requirements i.r.t. ROD is extracted and discussed
 - Discussion
 - General premise
 - Design philosophy
 - Land use zoning
 - Design approach and
 - Design concept formulation
 - Design Recommendation
 - Discuss design outcome with reference to design developments, sections, details, plant pallets (with color images)
 - Thematic design proposals and finishes
 - Preliminary assessment of water use as defined by the function or purpose of the landscape/ facilities*
 - Water demand per category calculated and presented in tabular form*
 - Special requirements of the municipality and how these requirements have been incorporated in the design proposal*

- Where borehole water is to be utilized, test results from yield and quality tests*
- Recommendations on usage and abstraction rates by Geo-hydrologist;
- The conceptual design of river abstraction method*
- Recommendation on licensing requirements to utilize borehole or river water*
- Cost estimate and comparison of the various design options

(* include these items only if not covered by the civil engineer's PDR)

- General Notes

- Reference material should be listed
- Title all images, diagrams and graphics included.
- Include descriptive annotations

- Appendices

- EIA- Record of Decision (ROD)
- Tree survey by qualified arborist
- Certification by a qualified engineer of the 1:10/20/50/100 year flood lines as well as the 32 m setback line from riverbanks
- Heritage Impact Assessment
- Phasing of proposed developments
- Rehabilitation Plans/ Preliminary Site Management Report
- Cost Estimates

- (7) General design conditions
 - (a) All client requirements should be incorporated in the design proposal
 - (b) Site/ Contextual/ Climatic and all other relevant environmental and social conditions should be acknowledged by, and be responded to in the design
 - (c) Public interfaces, transitions and connections should be well considered and integrated into the design solution
 - (d) The immediate surroundings and streetscape should be acknowledged and addressed by the design whenever possible
 - (e) Existing opportunities and constraints should be responded to or be addressed appropriately
 - (f) The best possible intervention, maximizing site potential in a sustainable and responsible manner, should be sought
 - (g) The design should be based on an ecological approach, considering and minimizing any negative impact on the natural environment
 - (h) Recycling of waste produced in the landscape and associated activities should be addressed on site as far possible
 - (i) Integrated and robust design solutions should be prevalent
 - (j) Desirable micro climatic conditions should be ensured. (Provide at least 1 shade tree for every two parking bays and prevent/ remedy large open hard surface areas)
 - (k) Appropriately scaled livable, pleasant and usable spaces should be created,
 - (l) desirably located relative to facilities and other design entities
 - (m) Indoor-outdoor flow and connections should be acknowledged
 - (n) A storm water management and water wise strategy should be formulated and be evident in the design proposal
 - (o) Renewable, locally sourced and recycled materials should be preferred and explored as far feasible

- (p) Only high quality, durable and vandal resistant material-use should be considered
- (q) Pedestrian flow and volumes should be provided for
- (r) Level pedestrian crossings and inclusive design principles should be applied throughout
- (s) Existing site features and vegetation should be retained and re-used as far possible
- (t) Top soil, seed, bulb and plant harvesting principles should be applied where possible
- (u) A concise and well formulated plant material application strategy should be formulated and applied
- (v) Plant material application should aim to:
 - (i) Make use of local/ regional vegetation type plant species, geographically and topographically associated with related site conditions
 - (ii) Group according to water requirements
 - (iii) Apply species to typically associated natural habitats
 - (iv) Prevent the introduction of alien species
 - (v) Achieve a sustainable yet appropriate vegetation scenario
 - (vi) Use species appropriate to the design context
 - (vii) Low maintenance species only
- (w) General maintenance costs and implications should be considered in all design decisions
- (x) The above conditions and requirements do not necessarily represent the full extent of design considerations and could alter or expand according to specific project and contextual requirements

- (8) Planning approvals process prior to submission to the DCM
 - (a) Consultation has taken place with consultant architect & representative / architect of the Client Department
 - (b) Revisions to drawings have been made and re-submitted for further comment, until such time as the planning is in line with the Client Department requirements and specific needs, and the Client Department representative is prepared to sign off, and the DPWI landscape architect considers that all the other aspects required by DPWI have been complied with
 - (c) After consultation has taken place and once the engineering reports & QS estimates & norms reconciliation are in line with what is required the DPWI professionals should indicate that they are satisfied that the work is ready for submission to the SPC

6.3.20

PM 006-13

Heritage

Relevant Consultant to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT: _____ **WCS NO :** _____
 _____ **REFERENCE NO:** _____

		Yes	No
1	Heritage implications are applicable on the site or structures	<input type="checkbox"/>	<input type="checkbox"/>
2	Heritage status of building/site confirmed with the Heritage Authority in reference to Sections 3, 34, and 38 of the National Heritage Resources Act no 25 of 1999. 60 Year rule or other triggers	<input type="checkbox"/>	<input type="checkbox"/>
3	Statement of Significance attached. (Heritage Statement)	<input type="checkbox"/>	<input type="checkbox"/>
4	If a permit will be required, attach necessary documentation e.g. Heritage Statement, Heritage Impact Assessment, etc. document as approved by Heritage Authority, as well as provisional approval for the intended scope of works	<input type="checkbox"/>	<input type="checkbox"/>
5	Cognizance of DPWI Directives on the Management of Heritage Assets , May 2007, Version 1.0	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NAME Heritage Consultant/PA _____ SIGNATURE _____

FIRM/ COMPANY _____ DATE _____

For completion by the Principal Agent

	Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly	<input type="checkbox"/>	<input type="checkbox"/>
NAME _____	SIGNATURE _____	
FIRM/ COMPANY _____	DATE _____	

For completion by DPWI Heritage Architect
 For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted

NAME _____ SIGNATURE _____

DATE _____

6.3.21

PM 006-14

Other Disciplines (To be completed if applicable)

Relevant Consultant to complete and sign this cover page. Attach to the outside of the set of documentation. DPWI Counterparts to sign at the SPCM

PROJECT:		WCS NO :	
		REFERENCE NO:	
		Yes	No
1	Scope of Works	<input type="checkbox"/>	<input type="checkbox"/>
2	List of attached documentation	<input type="checkbox"/>	<input type="checkbox"/>
3	Noted interaction with DPWI officials	<input type="checkbox"/>	<input type="checkbox"/>
4	All documentation in line with appointment conditions and legislation	<input type="checkbox"/>	<input type="checkbox"/>
5	All documentation in line with DPWI technical requirements	<input type="checkbox"/>	<input type="checkbox"/>
6	_____	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NAME Consultant _____

SIGNATURE _____

FIRM/ COMPANY _____

DATE _____

For completion by the Principal Agent		Yes	No
Co-ordination between all disciplines have been done and all documentation aligned accordingly		<input type="checkbox"/>	<input type="checkbox"/>
NAME _____		SIGNATURE _____	
FIRM/ COMPANY _____		DATE _____	
For completion by DPWI			
For Sketch Plan purposes the recommendation to the SPC Chairperson is ACCEPT/NOT ACCEPT the Sketch Plan design submitted			
NAME _____		SIGNATURE _____	
DATE _____			

7. Sketch Plan Committee Meeting

7.1 Attendees of the Meeting

- (1) Chairperson (Director/ Delegated Director. For HO projects: Director: Architectural Services or delegated official, or if predominantly an engineering/ other project, the relevant Director for the discipline or Dir: Architectural Services. For RO projects: Director: Projects or delegated official)
- (2) Architect (Nominated by Director: Architectural Services/ Projects)
- (3) Heritage if applicable (Nominated by Director: Architectural Services)
- (4) Civil Engineer (Nominated by Director: Civil & Structural Engineering Services/ Projects)
- (5) Structural Engineer (Nominated by Director: Civil & Structural Engineering Services/ Projects) Electrical Engineer Official (Nominated by Director: Electrical Engineering Services/ Projects)
 - (a) Mechanical Engineer Official (Nominated by Director: Mechanical Engineering Services/ Projects) Mechanical (Air-conditioning & other mechanical installations)
 - (b) Safety and Security
- (6) Town Planning Services (Nominated by Director: Town Planning Services)
- (7) Quantity Surveyor (Nominated by Director: QS Services/ Projects)
- (8) Landscape Architect (Nominated by Director: Architectural Services)
- (9) Head Office User Demand Management (UDM) or Regional UDM
- (10) Client Department (Director or delegated official that can sign off the Sketch Plan if accepted)
- (11) **Departmental Project Manager attendance is compulsory or his/her responsible Director to attend**
- (12) All professional consultant disciplines to be represented by at least the lead of each profession of the consortium

Note: Minutes: Chairperson is responsible for distributing the minutes within a week of the meeting. Circulation of minutes will be by e-mail, if no comment is

received within a week following circulation, the minutes will be signed by the Chair for record purposes. (Copy of original on Sketch Plan file for the project).

7.2 Typical Agenda for Sketch Plan Committee Meetings

- (1) Welcome
- (2) Introduction and Apologies
- (3) Attendance Register
- (4) Minutes of previous meeting (if not first submission)
- (5) Terms of Reference of the Committee
- (6) Background of the project (Client department and Project Manager)
- (7) Presentation of project by Consultant Architect (maximum 15 minutes).
Principal Agent/Architect to present an overview The presentation, should cover inter alia the background of the project, floor plans, the logical flow of the project, elevations,
- (8) sections, locality plan, site limitation, EIA, orientation, special site conditions, accessibility and energy efficiency
- (9) Town Planning (EIA, site clearance)
- (10) Heritage (HIA, demolitions)
- (11) Mechanical Engineering: Security & Fire Safety
- (12) Mechanical Engineering: Air-conditioning and mechanical installations
- (13) Structural engineering
- (14) Civil engineering
- (15) Electrical engineering
- (16) Landscape Architecture
- (17) Other Consultants
- (18) Architecture (incl. norms reconciliation)
- (19) Quantity Surveying: Cost estimates & Value for money
- (20) General
- (21) Special client requirements & sign off by Client Department
- (22) Recommendation if SP can be accepted (per discipline to confirm for minutes)
- (23) Closure

7.3 Typical Attendance Register for Sketch Plan Committee Meetings

**DEPARTMENT OF PUBLIC WORKS
ATTENDANCE REGISTER**

Project name _____ WCS _____
 Date _____ Time _____
 Venue _____

CONTACT PERSON	FIRM	PHONE/FAX/CELL / EMAIL	SIGNATURE
		Tel: Fax: Cell: Email:	

8. Decisions by the Sketch Plan Committee

There are typically 3 possible alternative outcomes to the SPCM

8.1 **Alternative 1**

The plans and documentation (i.e. architect's drawings, engineers' reports, quantity surveyor's cost estimate & norms reconciliation, etc.) do comply and are recommended by the SPC. The recommendation entails that a standard has been achieved which can enable the work to be taken to tender stage. The recommendation is then made to the Director: Special Projects or Director: Projects that work stage 3 had been achieved and that the team of consultants could proceed with the next work stage commensurate with architect's work stage 4 (technical documentation) This means that the work of the whole team of consultants has reached the standard of planning, design & work required by the DPWI, for the work to be signed off as having reached a minimum equivalent of the architect's work stage 3. Go ahead for the completion of tender documentation is subject to the availability of funding, this forms part of the Departmental project manager's duties to ascertain. Additions to the scope of work should be addressed by the DPWI PM in the prescribed way, although the SPC could comment on the necessity of such additions, should it wish to do so

8.2 **Alternative 2**

As above, with minor amendments documented in minutes that should be incorporated without re-submission to the SPC. The minutes will be forwarded to the responsible Director for approval and copy to the DPWI PM

8.3 **Alternative 3**

When a number of solutions have not yet been achieved, or too many outstanding items requiring attention or unresolved matters impacting on the outcome, it is recommended to the DPWI PM that the following actions be followed:

- (a) The SPCM will be closed. Program dates to be established for the outstanding work to be finalized. A new target date to be set for submission to the SPC

- (b) If it is clear at the beginning of the SPCM that the SP proposal requires major changes, time could be put to good use and with approval of various parties can be utilized for the very necessary discussions amongst the professional consultants and the DPWI professionals, outside the SPCM. The attendees remained convened as a technical meeting

9. Payment of Sketch Plan fees

The acceptance of the SP submitted to the SPC will normally imply that the architects have completed stage 3 of their appointment, and engineers their preliminary design report stage. The consultant can then on completion of the required amendments and approval by the relevant Director: Projects at Regional Offices and Director: Special Projects at Head Office of the SP be paid for the completion of the Sketch Plan stage. This SPC acceptance and recommendation of the SP will however, not exonerate the DPWI PM of his/her obligation to ensure full compliance with the brief and that the payment is due in terms of their conditions of appointment of the various consultants, before certifying the account for payment

10. Letter of recommendation to delegated authority



public works

Department:
Public Works
REPUBLIC OF SOUTH AFRICA

To _____ *(Enter Name of PM)*
Organization _____ NDPWI PM
Fax no. / E-mail Address _____

LETTER OF RECOMMENDATION

PROJECT NAME _____
WCS NO. _____

The Sketch Plan Committee has scrutinized the documentation presented and is in agreement that the documentation can be recommended for approval by the Director: Projects/ the Head: Special Projects

Regards,

(Signature)

Name *(Enter name of the Chairperson of the SPCM)*
Chairperson of the SPCM
Date

11. Sketch Plan approval

11.1 Sketch Plan Approval

PM 006-15

Sketch Plan Approval by Heads of Projects in Regional Offices, Special Projects Head Office, following the recommendation of the Chairperson of the SPCM

This form to be completed and signed by the Director: Projects in the Regional Office or Director: Special Projects at Head Office

PROJECT _____ WCS NO : _____
_____ REFERENCE NO: _____

For attention: DPWI PM: _____ (Name)

		Yes	No
1	Recommendation by Sketch Plan Committee (SPC) attached	<input type="checkbox"/>	<input type="checkbox"/>

Recommendation by SPC approved/ approved with amendments

Comments: _____

NAME Director: Projects/ Special Projects

SIGNATURE _____

DATE _____

A COPY OF THE SIGNED FORM TO BE FORWARDED TO THE CHAIRPERSON OF THE HO SPC FOR INFORMATION (Where applicable)

11.2 Sketch Plan Approval (No Formal SPCM)

PM 006-16

Sketch Plan Approval by Heads of Projects in Regional Offices, Special Projects Head Office, where formal SP was not followed by decision taken in line with delegated authority

This form to be completed and signed by the Director: Projects in the Regional Office or Director: Special Projects at Head Office

PROJECT _____ WCS NO : _____
_____ REFERENCE NO: _____

For attention: DPWI PM: _____ (Name)

Sketch Plan Process not required (in line with delegated authority)

Desktop studies done by the following disciplines only:

- 1 Architecture
- 2 Landscape Architecture
- 3 Civil Engineering
- 4 Electrical Engineering
- 5 Mechanical Engineering
- 6 Electronic Engineering
- 7 Structural Engineering
- 8 Heritage Specialist
- 9 Quantity Surveying
- 10 Other

SKETCH PLAN APPROVED/ APPROVED AS AMENDED

Comments: _____

NAME Director: Projects/ Special
Projects

SIGNATURE

DATE

A COPY OF THE SIGNED FORM TO BE PLACED ON PROJECT SP FILE

12. Queries regarding the Sketch Plan Committee

Queries regarding the Sketch Plan committee meeting may be directed to –

Name of Regional Office

Directorate: Projects

Name:

Physical Address:

Postal Address:

E-mail Address:

Telephone:

Cell-phone:

Fax:

Head Office:

Directorate: Architectural Services: Ms H Nienaber / Ms M Motsoeneng

Physical Address: Central Government Office, c/o Madiba and Bosman Streets

Postal Address: Private Bag X65, Pretoria, 0001

E-mail Address: helene.nienaber@dpw.gov.za / mamalo.motsoeneng@dpw.gov.za

Tel: (012) 406 1369 / 1371

ADDENDUM A

GUIDELINE FOR STANDARD DOCUMENTATION REQUIRED FOR SKETCH PLAN APPROVAL

This guideline is applicable to:

- **REPAIR AND RENOVATION PROJECTS**
- **REHABILITATION PROJECTS**
- **RESTORATION PROJECTS**
- **UPGRADING PROJECTS**
- **REFURBISHMENT PROJECTS**

The following documentation is required for submission to the Sketch Plan Committee for the approval.

1. PLANNING INSTRUCTION

A copy of the Planning Instruction must form part of the documentation

2. STATUS QUO REPORT

A copy of the Status Quo Report is to be attached

3. SCOPE OF WORKS DOCUMENT

The Scope of Works should include the following:

3.1 Index

3.2 An A4 size page per room needs to be compiled containing the following information:

3.2.1 Heading: The heading of the page should include the Building Name (in cases where there are more than one building on the site), Floor Number (in cases where the building is a multi-storey building), Room Number, Room Name

3.2.2 General Description: A general description is required of the work that is required within the room

3.2.3 Work to be done: The work that needs to be done must be separated per wall. The following headings are to be used: Floor, Wall 1, Wall 2, Wall 3, Wall 4 and Ceiling. Each heading must be followed by a description of the relevant work that is required on that particular element.

3.2.4 Photos: Photos reflecting the general condition of the room needs to be included on the page.

External works should be indicated on the elevations if the scope is not too extensive. Should the Scope of works be too extensive, the same procedure as mentioned above can be followed.

4. FINISHING SCHEDULE

The Finishing Schedule should be included in the documentation. The Door Schedule, Window Schedule and Sanitary Schedule should form part of the Finishing Schedule.

5. SPECIFICATION DOCUMENT

The specification should comply with DPW's PW371-A General Specifications document (Nov 2012) and with PW371-B Specification Data & Standards Guide (Nov 2012).

6. DRAWINGS

Drawings, applicable to the project, should include the following:

Location Plan

Site Plan

All Floor Plans

All Elevations (even if no work on the exterior is specified)

Sections

All new work, where applicable, must be indicated on the drawings according standard drawing practice.

Dimensions must be included.

A numbering system is to be used for the cross-referencing between plans, sections, elevations and the specification.

7. EXAMPLES

Annexure A -Scope of Works

Annexure B -Finishing Schedule

Annexure C -Specification Document

Annexure D -Drawings with a numbering system

NOTE: This document should be read in conjunction with the Manual for Architects.

SCOPE OF WORK LIST:

EXISTING GROUND FLOOR - BLOCK B

A. LG01 – STOEP

- Replace ceiling, cornice and paint
 - Provide 150mm isolation
 - Clean floor tiles
 - Provide 2x walk off mats in mat well
1. **Wall 01**
 - Repair, stain and varnish door
 - Repaint steel gate
 - Clean ironmongery
 2. **Wall 02**
 - Clean brickwork
 - Provide 1x new pinning board
 3. **Wall 03**
 - Clean brickwork
 - Remove Department of Justice signage, store and re-install after renovations



(Logo/Name)

Annexure A -Scope of Works



(Logo/Name)

B. LG02 - ENTRANCE FOYER

- Replace vinyl tiles with ceramic tiles on new screed
 - Replace ceiling, cornice and repaint
 - Provide 150mm isolation
1. **Wall 01**
 - Repair, stain and varnish door
 - Clean ironmongery
 2. **Wall 02**
 - Repaint wall
 - Sand down skirting, stain and varnish
 - Provide 1x new pinning board
 - Remove signage (backlit) store and re-install after renovations
 3. **Wall 03**
 - Repaint wall
 - Sand down skirting, stain and varnish
 - Provide 1x new pinning board
 4. **Wall 04**
 - Repaint wall
 - Remove Department of Justice signage, store and re-install after renovations
 - Sand down skirting, stain and varnish
 - Provide 1x new pinning board



(Logo/Name)

Annexure A -Scope of Works



(Logo/Name)

Annexure B -Finishing Schedule

01 FINISHING SCHEDULE_ GROUND FLOOR - BLOCK B - 01					
Room No	Room Name	Floor Finish	Wall Finish	Wall Tiles	Wall Tiles
LG01	Stoop			None	None
LG02	Entrance Foyer	N04 CERAMIC TILES (NEW) Remove existing vinyl tiles, remove existing skirting and store for re-use, break up existing screed to bare surface bed, clean wet and apply new screed as described in clause 14.18 of OW371. Cover the floors indicated on the drawings with Grade 1 acid resistant ceramic tiles, 8mm thick and of load group 4, but to sizes available in the market and of approved colour all bedded to a true and even surface with approved tile adhesive with joints not exceeding 6mm. Allow to set for a period of not less than 24 hours, the joints shall be grouted in with an approved tile grout as per clause 15.6 of OW371. Re-fit skirting kept in storage with new plugs and screws. Sand down with 200 grit sandpaper, apply mahogany wood-stain and allow for 24 hour drying time and apply two coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	None
LG03	Office 01	J01 CARPET TILES Remove existing carpet tiles (Nexus Berber Point), remove excess adhesive, prepare floor to take new 500 x 500mm carpet tiles with bitumen backing, laid by an approved contractor in strict accordance with manufacturers' specifications. New tiles to match existing tiles. Colour by Architect. Existing and new skirtings to be sanded down to bare surface, apply mahogany stain, allow 24 hour drying time and apply 2x coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	WINDOWS EXISTING S01 CLEAR SHEET GL/ Remove broken panes to with glass and putty as r S03 PUTTY (REPLACE Remove loose and crack rebates and re-putty with T35 STEEL WINDOWS 1 Clean down. Prepare for Colour: White
LG04	Server Room/ Library	J01 CARPET TILES Remove existing carpet tiles (Nexus Berber Point), remove excess adhesive, prepare floor to take new 500 x 500mm carpet tiles with bitumen backing, laid by an approved contractor in strict accordance with manufacturers' specifications. New tiles to match existing tiles. Colour by Architect. Existing and new skirtings to be sanded down to bare surface, apply mahogany stain, allow 24 hour drying time and apply 2x coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	WINDOWS EXISTING S01 CLEAR SHEET GL/ Remove broken panes to with glass and putty as r S03 PUTTY (REPLACE Remove loose and crack rebates and re-putty with T35 STEEL WINDOWS 1 Clean down. Prepare for Colour: White
LG05	Office 02	J01 CARPET TILES Remove existing carpet tiles (Nexus Berber Point), remove excess adhesive, prepare floor to take new 500 x 500mm carpet tiles with bitumen backing, laid by an approved contractor in strict accordance with manufacturers' specifications. New tiles to match existing tiles. Colour by Architect. Existing and new skirtings to be sanded down to bare surface, apply mahogany stain, allow 24 hour drying time and apply 2x coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	WINDOWS EXISTING L05 STEEL ROLLER SH Remove steel roller shut S03 PUTTY (REPLACE Remove loose and crack rebates and re-putty with T35 STEEL WINDOWS 1 Clean down. Prepare for Colour: White
LG06	Safe 01	N04 CERAMIC TILES (NEW) Remove existing vinyl tiles, remove existing skirting and store for re-use, break up existing screed to bare surface bed, clean wet and apply new screed as described in clause 14.18 of OW371. Cover the floors indicated on the drawings with Grade 1 acid resistant ceramic tiles, 8mm thick and of load group 4, but to sizes available in the market and of approved colour all bedded to a true and even surface with approved tile adhesive with joints not exceeding 6mm. Allow to set for a period of not less than 24 hours, the joints shall be grouted in with an approved tile grout as per clause 15.6 of OW371. Re-fit skirting kept in storage with new plugs and screws. Sand down with 200 grit sandpaper, apply mahogany wood-stain and allow for 24 hour drying time and apply two coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	None
LG07	Office 03	J01 CARPET TILES Remove existing carpet tiles (Nexus Berber Point), remove excess adhesive, prepare floor to take new 500 x 500mm carpet tiles with bitumen backing, laid by an approved contractor in strict accordance with manufacturers' specifications. New tiles to match existing tiles. Colour by Architect. Existing and new skirtings to be sanded down to bare surface, apply mahogany stain, allow 24 hour drying time and apply 2x coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	WINDOWS EXISTING S01 CLEAR SHEET GL/ Remove broken panes to with glass and putty as r S03 PUTTY (REPLACE Remove loose and crack rebates and re-putty with T35 STEEL WINDOWS 1 Clean down. Prepare for Colour: White
LG08	Waiting Area 01	N04 CERAMIC TILES (NEW) Remove existing vinyl tiles, remove existing skirting and store for re-use, break up existing screed to bare surface bed, clean wet and apply new screed as described in clause 14.18 of OW371. Cover the floors indicated on the drawings with Grade 1 acid resistant ceramic tiles, 8mm thick and of load group 4, but to sizes available in the market and of approved colour all bedded to a true and even surface with approved tile adhesive with joints not exceeding 6mm. Allow to set for a period of not less than 24 hours, the joints shall be grouted in with an approved tile grout as per clause 15.6 of OW371. Re-fit skirting kept in storage with new plugs and screws. Sand down with 200 grit sandpaper, apply mahogany wood-stain and allow for 24 hour drying time and apply two coats approved matt varnish.	U06 PAINT EXISTING WALLS WITH ACRYLIC EMULSION PAINT Wash down with an approved detergent all the existing wall surfaces and paint two coats acrylic emulsion paint. To bad portions of existing walls: strip off all flaked or otherwise defective paint film. Prepare for and apply one coat bonding liquid and paint as described above.	None	WINDOWS EXISTING S03 PUTTY (REPLACE Remove loose and crack rebates and re-putty with T35 STEEL WINDOWS 1 Clean down. Prepare for Colour: White
LG09	Waiting Area 02	N04 CERAMIC TILES (NEW)	U06 PAINT EXISTING WALLS WITH ACRYLIC	None	WINDOWS EXISTING

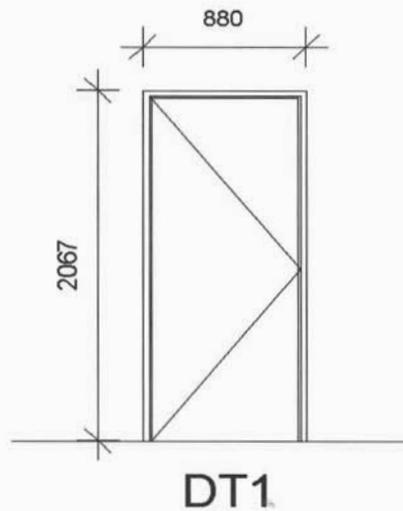
Annexure B -Finishing Schedule

01 FINISHING SCHEDULE _ GROUND FLOOR - BLOCK B - 01

Architectural fittings	Ceiling Type	Ceiling Finish	Area	No.	DATE	AMENDMENT	D.P.V
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described In clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	10 m ²				
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described In clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	24 m ²				
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described In clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	14 m ²				
	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described In clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	20 m ²				
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described in clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	23 m ²				
	EXISTING CONC. CEILINGS	U02 CONCRETE CEILINGS (PREVIOUSLY PAINTED WITH EMULSION PAINT) Clean down, prepare for and apply two coats emulsion paint to rooms. Colour: White	8 m ²				
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described in clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described in clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	46 m ²				
BOARD) carpet with firm base and aluminium frame pinning board, SABS f on drawings.	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described In clause 9.4 of OW 371. Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderfing with 2mm galvanised or cadlum plated clout headed nails, as described In clause 9.5 of OW 371. Complete with H-profile joining strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT) Prepare, stop and prime with an approved Alkali resisting primer and paint one undercoat and one coat flat paint to all fibre cement ceilings, and cover strips. Colour: White	14 m ²				
gh impact resistant uPVC extruded angular profile installed strictly in cornices	H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS Provide 38 x 38 mm branderfing where shown or mentioned, fix to tie beams and ceiling jolsts, as described in clause 9.4 of OW 371.	U01 PAINT NEW FIBRE CEMENT CEILINGS (FLAT PAINT)	9 m ²				

Building 13 - Single Quarters
DOOR DT1 - 13

Not to scale



DOOR FRAME

Existing Retain existing steel frame. Repair damage to frame and close unnecessary holes with body putty (polyester resin mixed with a hardener).

New insert new standard steel door with ventilation grill

FINISH Enamel paint to manufacturers specification complying with SANS 684, Type B and 10305, Colour to Architect.

Top light Glazing 4mm reeded glass pane glazed in neoprene gasket and timber beads to top light

DOOR LEAF

Existing Standard steel door with steel panels. Sand old paint surface to a matt finish. Remove surface contaminants using Sugar Soap solution. Remove rust with brushing and rust remover. Apply a rust converter to effected areas. All to manufacturers specification

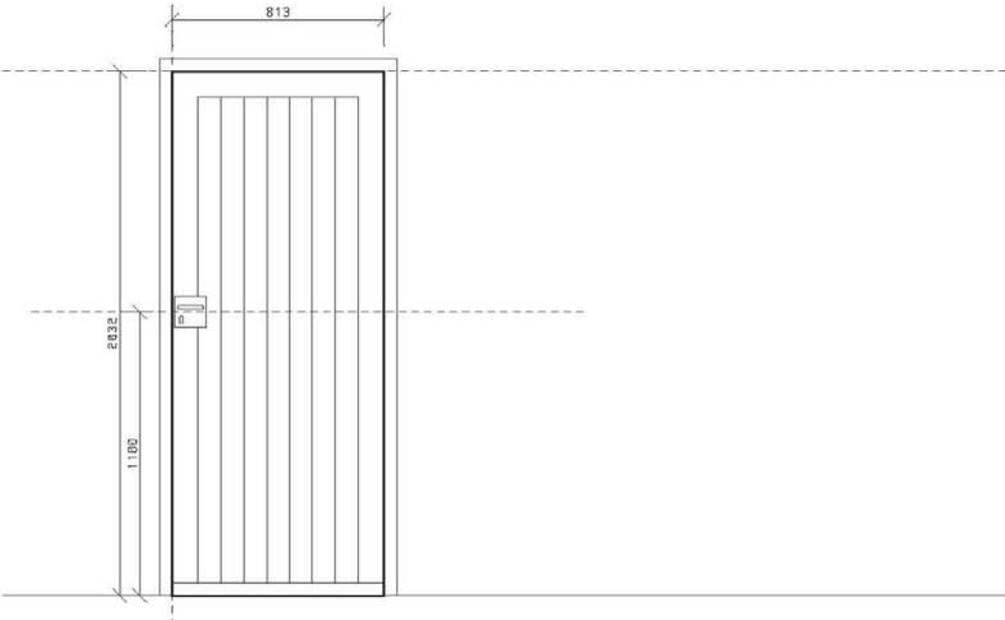
New Enamel paint to manufacturers specification complying with SANS 684, Type B and 10305, Colour to Architect.

IRONMONGERY

Existing Service existing door furniture

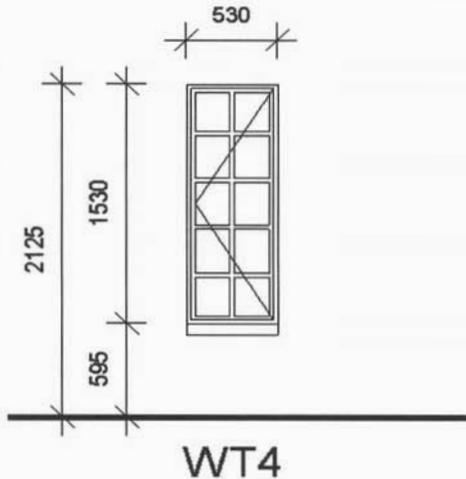
New Remove existing door furniture if door is existing. Install mortise lockset comprising of a brass pull handle set (as approved by Architect) with flange fixing, brass escutcheon to match and 6 lever upright lock with stainless steel forend, keyed alike. With rebate conversion set. All to comply with SANS 4

Annexure B -Finishing Schedule

TYPE	LOCATION	PRETORIA JUSTICE COLLEGE: REPAIRS & RENOVATIONS FOR TRAINING CENTRE (WCS 047104)	consultant
A-EDT01	d001, d057		
			
EXTERNAL ELEVATION SCALE 1:25			All dimensions to be checked on site and drawings may not be scaled
DOOR SIZE Standard 813x2032			
DOOR NEW DOOR: New standard single FLB Meranti open back door, as per Swartland or similar approved code MA208822 SANS compliant. Fit door with weather bar to exterior side.			
DOOR FINISH Paint door with two coats Maxicare or similar approved timber sealant in colour Imbuia.			
DOOR FRAME NEW DOOR FRAME: New single rebate pressed steel frame for double brick wall. Fit new stainless steel striker plate and hinges.			
DOOR FRAME FINISH Paint with one coat steel primer and two coats enamel paint colour light gray to architects approval.			
IRONMONGERY AND FURNITURE Fit new stainless steel handle as per Dorma TH120/BP or similar approved. New lock to specialist as per Dorma or similar approved specification to match handle.			
GLAZING NONE			
NOTES			

WINDOW WT4 - 2.6

Not to scale



TYPE

FRAME: Standard manufactured side hung pane type opening steel window complying with SANS 727

CODE:

FRAME FINISH

Prepare Existing Frame: Sand old paint surface to a matt finish. Remove surface contaminants using Sugar Soap solution. Remove rust with brushing and rust remover. Apply a rust converter to effected areas. All to manufacturers specification.

FINISH: Enamel paint to manufacturers specification complying with SANS 684, Type B and 10305, Colour to Architect.

GLASS

Clear sheet glass according to SANS 50572 and in the following maximum sizes to SANS 1263:

3mm in panes up to 0,75m²

4mm in panes up to 1,50m²

Fixing of glazing to comply with SANS 10137

Lamin. 6.4 mm laminated clear glass with 0.76 mm High Penetration resistant Poly-vinyl butyral interlayer complying to SABS 1263

FIXING OF GLAZING

Repair existing Remove existing dried, loose and damaged putty and apply new putty to comply with SANS 680. Putty to be primed and Painted with Enamel paint to match window frames.

New Fix glazing to frame with putty to comply with SANS 680. Putty to be primed and Painted with Enamel paint to match window frames.

IRONMONGERY

Brass Casement fastener with sliding stay and thumb fastener for each side-hung casement opening section

SILL

Internal Painted fibre cement internal sill.

External Face brick on edge external window sill

Annexure C -Specification Document

PROJECT NAME: _____

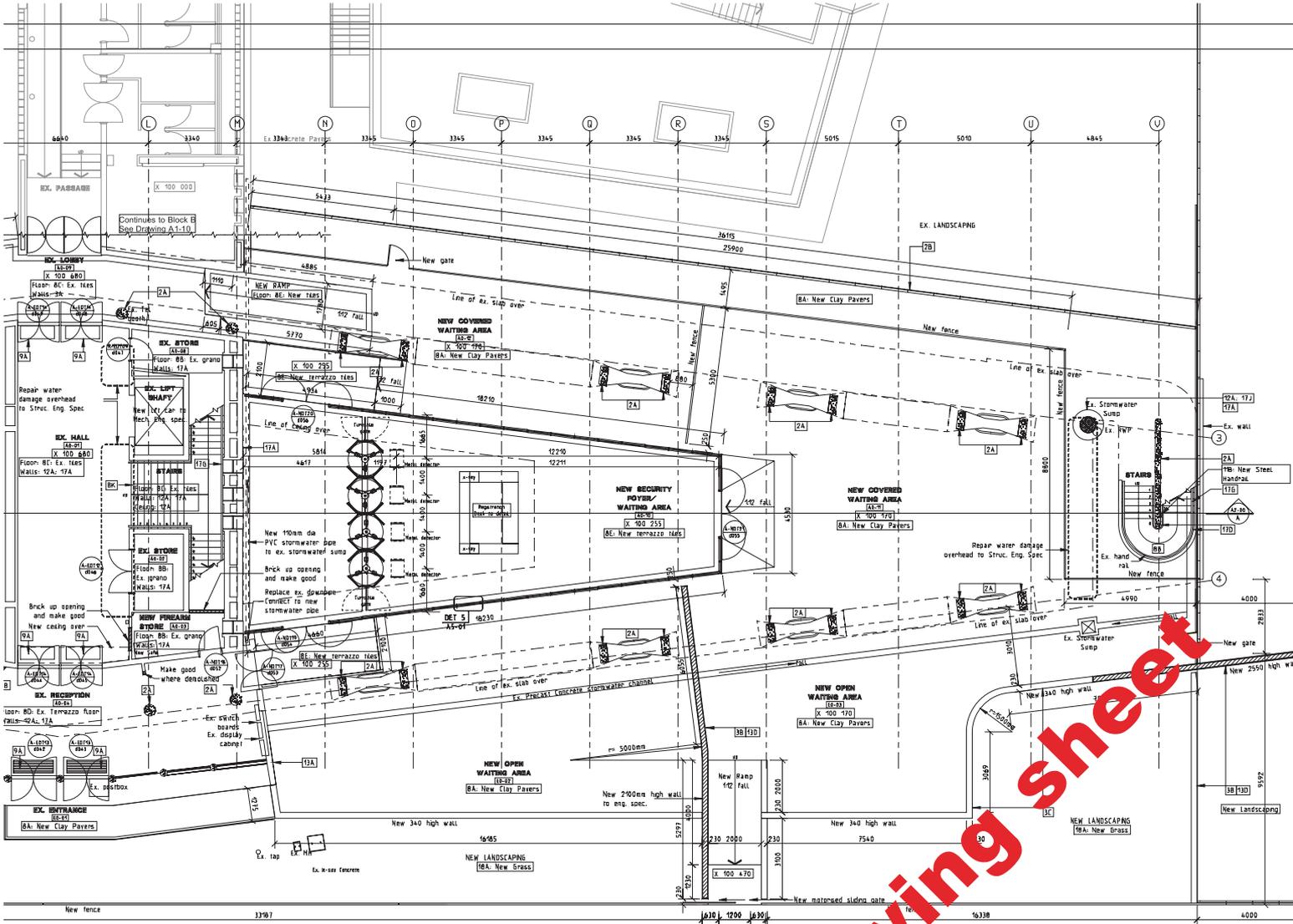
DOCUMENT STATUS: FOR COSTING INFORMATION

SPECIFICATION DOCUMENT:		
BUILDING:	(BUILDING NAME)	
NOTE:		
NO		
1.1.	All finishes to be applied and/or fitted strictly according to manufacturers specification and/or details.	
1.2.	Alternative finishes and products by different Manufacturers to those specified may be submitted to Architect for approval. Such alternatives must be of equal quality and performance criteria.	
2. CONCRETE		
NO	ITEM	SPECIFICATION
2A	NEW AGGREGATE TRANSFER FINISH	<p>New Stone Finish System to be applied in strict accordance to the Manufacturer's System and Specification, such as Marmoran Customised Wall Coating Systems 1,5mm Stone Finish System or equal approved. Colour: Silverspoon Gray.</p> <p>Redecoration: Prepare by removing all peels and flaking paint, dirt, grease and grime. Make good all cracks and defects, then repair and prime to match the existing surface. Proceed as for new work.</p> <p>New Work: Inspect the substrate accordingly. The plaster should be a fine wood float finish and adequate time should be allowed for it to cure prior to the application of any specialist or semi-specialised coating or paint. Prepare the substrate appropriately to ensure that the surface is clean, dry and sound. Apply an even coat of the appropriate Primer. Apply the 1,5mm Stone Finish System [ASTM E96 Comp. and Controlled Water Vapor Permeability] to match the approved Sample Panel Reference Number: SP1107-2. Apply an even coating of Marmoran Grize or equal approved. A 4 Year International Guarantee Underwritten by A Third Party to be provided by a Marmoran Licensed Applicator in strict accordance to the full specification and is accepted and signed by the relevant parties. To be applied by a trained applicator that is skilled and experienced.</p>
2B	NEW 100X250MM CONCRETE EDGING KERB	<p>Install new 100 x 250mm Concrete edging kerb complying with SANS 927. Use nominal lengths of 1000 mm maximum for straight or curved kerbs with a maximum radius of more than 20 m or 500 mm maximum for curved kerbs with a radius between 4 and 20 m, or 300 mm maximum for radii up to 4 m such as Manstone KCB Edging kerb or equal approved.</p> <p>Mortar: Use Class I mortar.</p> <p>Bedding material: Use crushed stone, sinter, slag, sand or approved porous material with a particle size of 13 mm maximum for bedding material.</p> <p>Backing concrete: Use grade 15 concrete for backing concrete.</p> <p>Joint sealant: Use polysulphide joint sealant complying with SANS 110 for movement joints where specified.</p> <p>Laying: Excavate trenches for kerbs and channels to below the required level and refill with at least 70 mm of bedding material. Compact to required level and slope to at least 90 % MOD AASHTO. Bed kerbs and channels on 50 mm bedding material with 10 mm joints filled with mortar. Wet joints well before jointing. Provide 12 mm wide movement joints in channels at intervals not exceeding 20 m and leave open, or fill with polysulphide when dry, as specified. Support backs of kerbs with a layer of well-compacted backing concrete. Fill behind kerbs with approved material in layers not exceeding 150 mm, wet and compact to 90 % MOD AASHTO. Protect concrete units against damage and discolouration.</p> <p>Tolerance: Ensure maximum deviation of any edge, centre line or vertical surface from specified position is 25 mm. Ensure maximum allowed deviation of any invert level is 10 mm.</p>

Annexure C -Specification Document

E	Brickwork	Quantity
E01 APPLICATION OF CLAUSES	As described in clauses 5.1 to 5.16 of OW 371.	
E02 GENERAL PURPOSE BRICKS	To be good, hard, sound, well burnt machine made bricks, even in size, to match existing OR similar approved.	
E03 BRICKS FOR FOUNDATIONS	To be good, sound, extra hard burnt machine made bricks, even in size, to match existing OR similar approved.	
E04 FACING BRICKS	To be good, hard, sound, well burnt machine made bricks, even in size and shape, to match existing OR similar approved. N.B: The Department reserves the right to use bricks at their discretion.	
E05 BRICK FOUNDATION WALLS	Build all foundation walls with extra hard burnt bricks to the lengths and thicknesses shown, from top of footings up to damp course level in cement mortar as described in clauses 5.14 and 5.15 of OW 371. Walls shown as facing bricks are to be built from two courses below finished ground level with facing bricks and jointed as described in clause 5.35 of OW 371 with a keyed or recessed joint as directed.	
E06 BRICKWORK (Cell Block)	Build all solid superstructure walls to lengths and thickness shown on drawings with bricks as described.	
E07 ONE BRICK WALL	One brick thick walls are to be built in English Bond as described in clause 5.14 of OW 371, and in cement mortar. Joints in brickwork to walls specified to be plastered or tiled, are to be raked out as described in clause 5.16 of OW 371.	
	Face brickwork to be built with facing bricks as described and pointed as directed with a recessed or keyed joint as clause 5.35 of OW 371.	
E08 BRICK ON EDGE COPING	Finish top of storm-water retaining wall with brick on edge course in facing bricks as described, bedded and jointed in 1:1 cement mortar flush pointed on top and pointed on faces with a recessed or keyed joint as specified.	
E15 PRE-STRESSED LINTELS UNDER NEW WALLS/ON EXISTING BUILDING (Cell Block)	Remove the floor finishing and lay pre-stressed lintel/s on existing concrete surface bed, one layer each half brick thickness of wall, all as described in clause 5.25 of OW 371.	
E20 INSTALLATION OF ELECTRICAL SERVICES	As per Electrical Engineer's specification	
E21 ITEMS TAKEN OUT FROM WALLS AND STORED FOR RE-USE	Carefully take out the items shown or specified below and store for re-use: <ul style="list-style-type: none"> • Coat hooks • Fire extinguishers • Blinds • Signage • Shelving 	

Annexure D -Drawings with a numbering system



partial drawing sheet

NO.	DATE	AMENDMENT	DPW



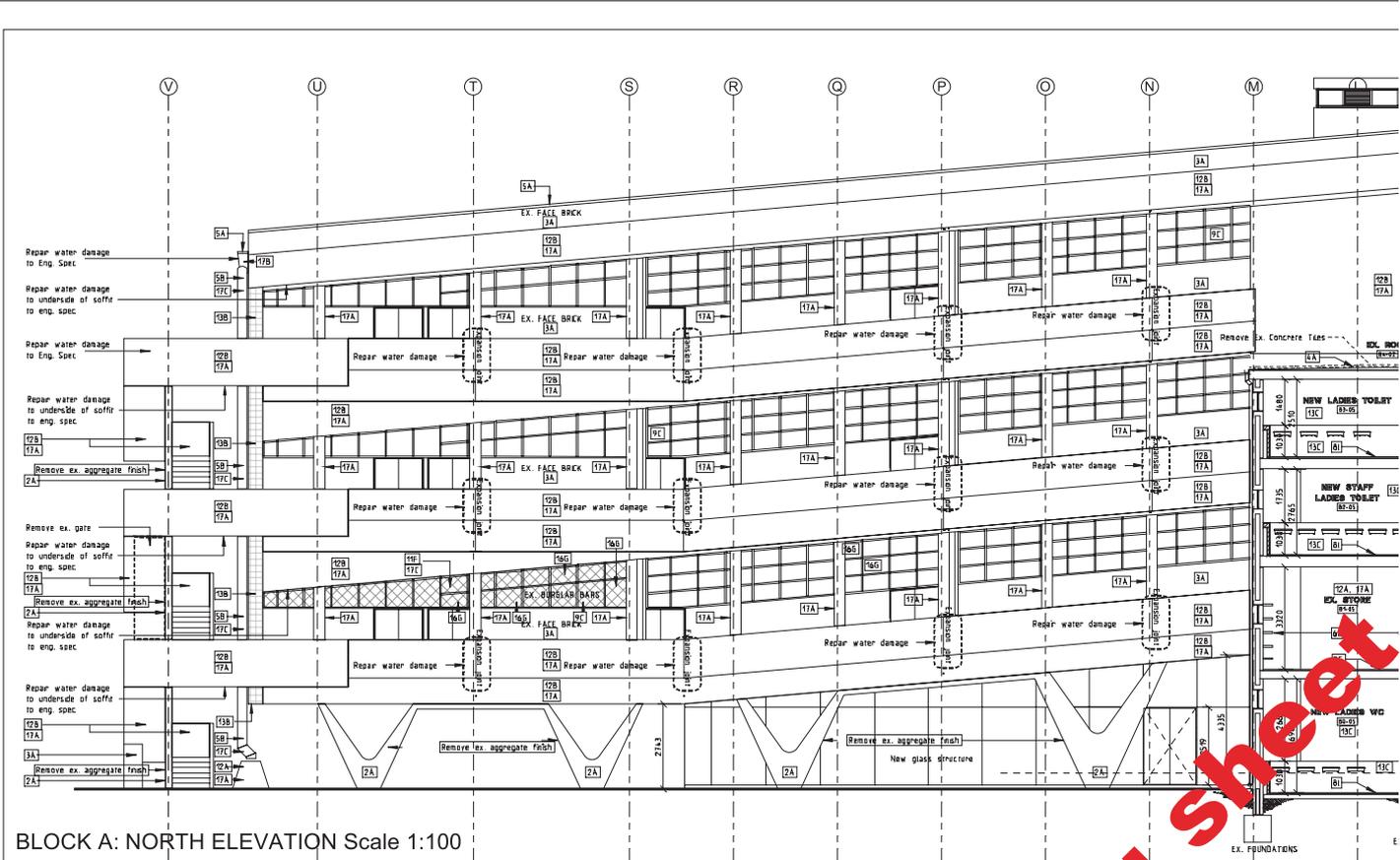
public works
Department:
Public Works
REPUBLIC OF SOUTH AFRICA

DIRECTOR-GENERAL
MR. SIVIVE DONGWANA

consultant	drawing title	ref.no.	designed
discipline	scale	date of print	drawn
service	DPW drawing number	checked	revision no.
WCS number			

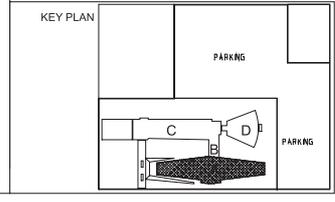
GENERAL NOTES
ALL MATERIALS AND CONSTRUCTION MUST COMPLY WITH THE NATIONAL BUILDING REGULATIONS (ACT NO. 103 OF 1977) INCLUDING ALL AMENDMENTS AS WELL AS THE BY-LAWS OF THE LOCAL AUTHORITY.
ALL DIMENSIONS TO BE CHECKED ON SITE AND DRAWINGS MAY NOT BE SCALED.
ANY INADEQUACIES OR DISCREPANCIES MUST IMMEDIATELY BE POINTED OUT TO THE ARCHITECT FOR RECTIFICATION OR EXPLANATION BEFORE ANY CONSTRUCTION MAY COMMENCE.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE CORRECT APPLICATION AND FOR SPECIFICATION OF PRESCRIBED MATERIALS AND EXECUTE ALL WORK TO THOSE SPECIFICATIONS.

Annexure D -Drawings with a numbering system

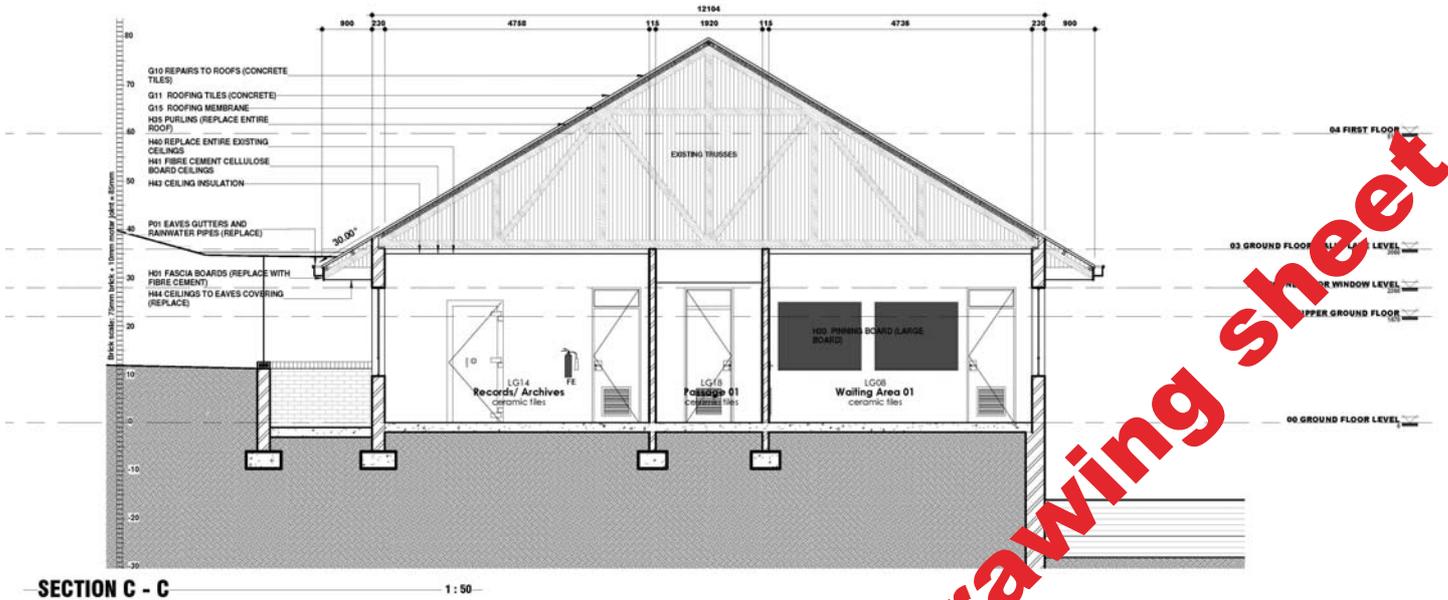


BLOCK A: NORTH ELEVATION Scale 1:100

SPECIFICATIONS		
<p>2. CONCRETE: 2A: New aggregate transfer finish 2B: New 100x250mm concrete edging kerb 2C: New precast concrete stormwater channel 2D: New concrete barrier kerb 2E: New concrete Roof Slab 2F: New concrete Ramp</p> <p>3. MASONRY: 3A: Clean ex. facebrick walls 3B: New Plastered brick wall 3C: New facebrick wall</p> <p>4. WATERPROOFING: 4A: New waterproofing 4B: New waterproofing to receive mosaic tiles 4C: New rubber waterproofing</p> <p>5. ROOF COVERINGS: 5A: New HS flashing to detail 5B: Repair ex. steel downpipe 5C: New MS Roofsheeting with concealed fixing 5D: New MS gutters and downpipes 5E: New cement screed</p> <p>6. CARPENTRY AND JOINERY: 6A: New auditorium seating (Type A) 6B: New timber skirting 6C: New auditorium seating (Type B) 6D: New shelving 6E: New timber worktop to detail 6F: New timber counter to detail 6G: Sand and varnish ex. timber 6H: New Timber bench 6I: New Timber Worktop to match existing 6J: New Timber worktop to detail 6K: New Timber cladding to detail 6L: - 6M: New Timber cladding to detail</p> <p>7. CEILINGS, PARTITIONS AND ACCESS FLOORING: 7A: New suspended ceiling (Type A) 7B: New suspended ceiling (Type B) 7C: New suspended timber ceiling 7D: New insulation in cavity 7E: New drywall partition 7F: New suspended ceiling (Type C)</p>	<p>7G: New toilet partition 7H: New fibre cement ceiling 7I: New gypsum ceiling 7J: New suspended gypsum ceiling 7K: New insulation board to roof</p> <p>8. FLOOR COVERINGS, WALL LININGS: 8A: New clay tiles 8B: Clean ex. terrazzo floor 8C: Clean ex. Terrazzo tiles 8D: Clean ex. In-situ Terrazzo floor 8E: New Terrazzo tiles 8F: New Timber floor 8G: New vinyl floor (Colour 1) 8H: New vinyl floor (Colour 2) 8I: New epoxy floor 8J: New sound insulation to plinth 8K: New step nosing strip 8L: New cement screed with fall to outer 8M: New raised access floor 8N: New non-slip vinyl floor 8O: New cement tiles 8P: New concrete tiles to match existing 8Q: New carpet tiles 8R: New carpet tiles (5th floor) 8S: New carpet tiles (Library Type A) 8T: New carpet tiles (Library Type B) 8U: New Grano Scaed</p> <p>9. BOUNDINERY: 9A: New door mat 9B: New blinds 9C: New window mechanism to ex. steel window</p> <p>10. METALWORK: 10A: New handrail to match ex. steel and vinyl handrail 10B: New handrail to match existing 10C: New covered parking structure 10D: New steel fence (external) 10E: New galvannead mild steel grating walkway 10F: New steel fence (security) 10G: Remove and replace ex. steel panel</p> <p>11. PLASTERING: 11A: Repair ex. plasterwork</p>	<p>11B: Repair ex. plasterwork (concrete) 11C: Plaster Dip to Detail</p> <p>12. TILING: 12A: New mosaic tiles 12B: Clean ex. tiles 12C: New wall tiles (Bathrooms) 12D: New wall tiles</p> <p>13. PLUMBING AND DRAINAGE: 13A: New water tanks to eng. spec. 13B: New WC suite 13C: New Urinal 13D: New finished WC suite 13E: New disabled WC 13F: New geyser to eng. spec. 13G: New orbital division 13H: New filter/basket to ex. floor drain</p> <p>14. GLAZING: 14A: Glazed curtainwall 14B: New georgian wire glass to ex. steel window frames 14C: New glass to ex. steel window frames (detail) 14D: New mirror 14E: New safety glass to ex. steel window frames 14F: New obscure glass to ex. steel window frames 14G: New glass to ex. steel window frames 14H: New glass to ex. timber window frames 14I: New glass to ex. steel window frames</p> <p>15. PAINTING: 15A: Repair ex. plasterwork (interior) 15B: Repair ex. concrete (interior) 15C: Repair ex. steel 15D: Repair ex. grano skirting 15E: Paint on new timber skirting 15F: Repair, Sand and Seal ex. timber floor 15G: Clean and paint ex. steel handrail 15H: Clean and repair ex. steel louvers 15I: Clean and repair ex. steel strap</p> <p>16. REPAIR WORKS: 16A: Repair wall 16B: Repair wall 16C: Repair wall 16D: Repair wall 16E: Repair wall 16F: Repair wall 16G: Repair wall 16H: Repair wall 16I: Repair wall 16J: Repair wall 16K: Repair wall 16L: Repair wall 16M: Repair wall 16N: Repair wall 16O: Repair wall 16P: Repair wall 16Q: Repair wall 16R: Repair wall 16S: Repair wall 16T: Repair wall 16U: Repair wall 16V: Repair wall 16W: Repair wall 16X: Repair wall 16Y: Repair wall 16Z: Repair wall</p> <p>17. MECHANICAL ENGINEER: 17A: New lift car to Mechanical engineer 17B: New Platform Step lift to Mech. Eng. 17C: New vertical Platform lift to Mech. Eng.</p> <p>18. ACUSTIC INSTALLATION: 18A: Cloth covered acoustic panel 18B: Broadband cloth covered acoustic panel 18C: Sand and vibroch ex. timber stairs 18D: New Absorbent acoustic backing material 18E: New linear perforated acoustic panel 18F: New timber beading to detail</p> <p>19. EQUIPMENT AND FITTINGS: 19A: New Stainless Steel Workshop 19B: New Electric Oven 19C: New Deep Fryer 19D: New Fryer 19E: New Electric Stove/Oven Combo 19F: New Ban-Mare (3 dish) 19G: New Ban-Mare (6 dish) 19H: New Safe 19I: New Convection Oven and rack combo 19J: Service Ex. Dishwasher 19K: Service Ex. Counter Fridge 19L: Repair ex. coldroom and freezer refrigeration system 19M: Service Ex. Extractor hood 19N: New Steel lockers 19O: New Star Stretcher</p>



Annexure D -Drawings with a numbering system



KEYNOTE VALUE	KEYNOTE TEXT
G10 REPAIRS TO ROOFS (CONCRETE TILES)	Carefully remove entire roof covering include new ridge and hip tiles and replace with new concrete tiles as described in G11
G11 ROOFING TILES (CONCRETE)	Cover the roof as shown or mentioned with concrete roofing tiles as described in clause 8.13 of OW 371. Marseilles Profile, Colour: Black
G15 ROOFING MEMBRANE	Provide and lay on top of rafters an approved underlay of non-combustible polyethylene laminates waterproofing membrane as described in clause 7.1 of OW 371.
H01 FASCIA BOARDS (REPLACE WITH FIBRE CEMENT)	Carefully take down all fascia boards as mentioned and remove from site. Provide and fix 225 x 10mm thick pressed fibre cement boards, neatly fitted and secured to bottom purlin and ends of rafters as described in clause 8.22 of OW 371.
H30 PINNING BOARD (LARGE BOARD)	Provide and fix 1800 x 1200 mm carpet with firm base and aluminium galvanneal pinning board, SABS approved in positions as indicated on drawings. COLOUR: GRAY
H35 PURLINS (REPLACE ENTIRE ROOF)	Strut as required to existing trusses in position, and take down all existing purlins and remove from site. Provide and fix in position, new 38 x 38 mm SA Pine purlins. Securely spike purlins to trusses with 4 mm dia. wire nails as described in clause 8.19 of OW 371. Spacing of purlins as per tile manufacturer's specification.
H40 REPLACE ENTIRE EXISTING CEILINGS	Carefully take down the cornices and ceiling boards to the ceilings where mentioned and remove from site. Nail up loose branderling. Replace broken or otherwise defective branderling. Provide additional branderling as required to suit the sizes of the new boards. Provide and fix new branderling as in clause 9.4 of OW 371 for fibre cement cellulose board ceilings. Provide and fix new fibre board as described in clause 9.5 of OW 371.
H41 FIBRE CEMENT CELLULOSE BOARD CEILINGS	Cover the ceilings with 6 mm thick fibre cement cellulose board, nailed to branderling with 2mm galvanised or cadmium plated clout headed nails, as described in clause 9.5 of OW 371. Complete with H-profile jointing strips. Provide and fix 76 x 19mm hardwood cornices complete with 19mm quarter round neatly mitred and securely fixed to walls and ceilings. See detail for Cornice.
H43 CEILING INSULATION	Provide and lay on ceiling surfaces insulation where indicated or mentioned, manufactured out of 150mm thick (2x layers of 75mm thick) resin bonded glass fibre or rock mineral wool, as described in clause 9.8 of OW 371.
H44 CEILINGS TO EAVES COVERING (REPLACE)	Replace covering to eaves with new eave covering, including additional branderling if required. Cover ceiling with 6 mm thick fibre cement cellulose board, complete with H-profile jointing strips. Provide 25mm quadrants as cornices and paint same colour as the ceilings. Ventilation louvers as per Mechanical Engineer.
P01 EAVES GUTTERS AND RAINWATER PIPES (REPLACE)	Take down eaves gutters with brackets and rainwater pipes and remove from site. Provide and fix new eaves gutters and brackets as described in clause 16.12 of OW 371 and new rainwater pipes and brackets as described in clause 16.13 of OW 371 and of sizes as specified below: i Size of gutters: 125 x 125mm ii Size of rainwater pipes: 100 x 100mm
R03 REPAIR SURFACE WATER CHANNELS	Thoroughly overhaul all surface water channels and repair where defective. All cracks to be cut out and filled in and finished off with 2:1 cement mortar to match existing. All loose sections and sections out of alignment to be taken up and rebedded to correct falls and alignment. Approx. ±50m Joints to be cleaned out and re-caulked with a stiff mixture of 3:1 cement mortar and left perfect.

Annexure D -Drawings with a numbering system



partial drawing sheet

KEYNOTE VALUE	KEYNOTE TEXT
E35 REPAIR CRACKS IN FACE BRICK WALLS (Retaining Walls)	Carefully cut defective pointing to brickwork adjoining the crack to be repaired, clean out, well wet crack and joints, fill in crack with 3:1 semi-dry cement mortar, well caulked in from one side, finished make good pointing in cement mortar to match existing pointing.
E36 PROTECT AND CLEAN DOWN BRICK WORK, ETC	Protect angles of face brick work, reveals, steps, etc liable to damage during the progress of the remaining work. Clean down as the work proceeds, face brick work, sills, copings, etc liable to be soiled by mortar or plaster splashes during the progress of the remaining work, all as described in clause 5.43 of OW 371.
G10 REPAIRS TO ROOFS (CONCRETE TILES)	Carefully remove entire roof covering include new ridge and hip tiles and replace with new concrete tiles as described in G11
G11 ROOFING TILES (CONCRETE)	Cover the roof as shown or mentioned with concrete roofing tiles as described in clause 7.3 of OW 371. Marseilles Profile, Colour: Black
H01 FASCIA BOARDS (REPLACE WITH FIBRE CEMENT)	Carefully take down all fascia boards as mentioned and remove from site. Provide 225 x 10mm thick pressed fibre cement boards, neatly fitted and securely fixed to bottom purlin and ends of ratters as described in clause 8.22 of OW 371.
P01 EAVES GUTTERS AND RAINWATER PIPES (REPLACE)	Take down eaves gutters with brackets and rainwater pipes and remove from site. Provide and fix new eaves gutters and brackets as described in clause 16.12 of OW 371 and new rainwater pipes and brackets as described in clause 16.13 of OW 371 and of sizes as specified below: i Size of gutters: 125 x 125mm ii Size of rainwater pipes: 100 x 100mm
S03 PUTTY (REPLACE)	Remove loose and cracked putty from rebates of window panes specified. Prime rebates and re-putty with putty as described in clause 17.2 of OW 371.
T11 NEW GUTTERS AND RAINWATER PIPES (PAINT)	OUTSIDE: Degrease, paint one coat self-etch primer one undercoat and one coat high gloss paint. Colour: White GUTTERS INSIDE: Clean and paint one coat bituminous paint.
T35 STEEL WINDOWS WITH PAINT IN GOOD CONDITION ON BOTH SIDES	Clean down. Prepare for and paint one undercoat and one coat high gloss paint. Colour: White
U11 EXISTING AND NEW HARDWOOD DOORS (TO BE VARNISHED BOTH SIDES)	Sand down with 200 grit sand paper apply mahogany woodstain and allow for 24 hour drying time and apply two coats approved varnish both sides of doors specified.
U16 STEEL DOORS AND FRAMES (PREVIOUSLY PAINTED)	OUTSIDE: (PAINT IN BAD CONDITION): Remove paint surface to bare face, prepare for and apply primer coat, undercoat and one coat high-gloss enamel finishing paint. INSIDE: (PAINT IN GOOD CONDITION): Clean down and paint one undercoat and one coat high gloss enamel paint. Colour: