



**DEPARTMENT OF PUBLIC WORKS**

**MANUAL FOR PRIVATE  
QUANTITY SURVEYORS  
APPOINTED BY THE DEPARTMENT**

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## 1. DEFINITION OF WORDS

### 1.1.1

**Private Architect:** The consultant architect who accepted the invitation of the Director-General to perform certain services on a specific project

### 1.1.2

**Department:** The Department of Public Works of the Government of the Republic of South Africa

### 1.1.3

**Director-General:** The Director-General of the Department of Public Works in terms of the Condition of Contract (OW 677)

### 1.1.4

**Letter of appointment:** The letter of the Department inviting the private quantity surveyor to perform certain quantity surveying functions for the Director-General, on a specific project

### 1.1.5

**Manual:** The "Manual for Private Quantity Surveyors appointed by the Department" (QS90E) and including all annexures and amendments thereto

### 1.1.6

**Principal agent:** The consultant architect except when stated otherwise in the letter of appointment. also acting as the Representative/Agent in terms of the Conditions of Contract (OW677).

### 1.1.7

**Professional team:** The consultants of the various disciplines for the project

### 1.1.8

**DPW Specialist:** The person appointed by the Director-General to act on his behalf to supply the necessary supporting services in regard to certain specialised aspects of the Contract.

### 1.1.9

**Private Quantity Surveyor:** The consultant quantity surveyor who accepted the invitation of the Director-General to perform certain services on a specific project.

### 1.1.10

**Project Manager** The Consultant or Departmental official appointed by the Director-General, to act on his behalf for managing project to achieve predetermined objectives and in terms of the Conditions of Contract (OW677).

### 1.2

Words indicating the singular also include the plural and vice versa unless the intention of the manual indicates otherwise.

2.  
**CHIEF DIRECTORATE: QUANTITY SURVEYING SERVICES**

The Chief Directorate:Developing Operations falls under the Branch: Property Development of the Department controlled by the Deputy Director-General and is divided into a Sub Directorate: Administration Services and Directorates for Evaluation and Development, North West Regions, South East Regions and Major Projects each controlled by a Director. Development Operations is Controlled by the Chief Director.

3.  
**THE APPOINTMENT**

**3.1 Generally**

Private quantity surveyors are invited by the Director-General to perform certain quantity surveying functions on a specific project and acceptance of this invitation shall be deemed acceptance of the conditions as set out in the letter and in this manual.

A private quantity surveyor has to liaise directly with the principal agent for each stage of his duties. Where the private quantity surveyor is the principal agent he has to contact the Project Manager.

3.2  
**Firms in Association**

The letter of appointment will indicate which firm shall be the representative firm for co-ordination liaison on and correspondence with the Department and the Principal Agent. Refer to the letter of appointment in this regard. All communication between firms in association and the Department shall be conducted through the DPW Specialist representative firm only.

3.3  
**Indemnification by firms with limited liability**

Directors, members, partners of the company with limited liability/close corporation/enterprise with limited liability have to accept herewith jointly and severally, in his/our personal capacity, full liability for the due fulfillment of all obligations in respect of the applicable appointment as indicated in the letter of appointment.

3.4  
**National public works Programme:**

The Department is committed to ensure that the principles of the NPWP are embarked in all its projects. Refer to the letter of appointment in this regard.

3.5  
**Correspondence**

The WCS number and file number indicated in the letter of appointment must be quoted in all correspondence including accounts for professional fees.

All correspondence must be addressed to the Director-General and marked for the attention of the relevant Project manager.



3.6

**Language Medium:**

All documents are to be compiled in English.

3.7

**Preference:**

Where there is any conflict between this manual and the letter of appointment, the letter of appointment shall take preference.

4.

**DUTIES**

The private quantity surveyor's duties will be set out in the letter of appointment

5.

**FEE ACCOUNTS**

The private quantity surveyor shall be responsible for the preparation and submission of his/her own fee accounts. The fee accounts should be submitted on the standard QS 52E form obtainable from the Project Manager.

The summary, the amount due as well as the space for a signature authorising payment should be completed on the first sheet followed by detailed calculations.

Accounts for projects containing replications must be accompanied by a schedule allocating the value of work to the various sections before and after distribution of such items as preliminaries, contract price adjustment, etc. with column totals corresponding with the total value of the work.

A preliminary fee account for services A and B may be rendered for payment on submission to the Department of the draft bills of quantities, the pre-tender estimate and a norm reconciliation statement. This account will be based on an estimate of the anticipated lowest tender price normally accepted by the Department, and is to be followed by an amended account based on the accepted tender amount. In the event of the price of the accepted tender being such that the fee thereon is less than the fee already paid, any excess payment made shall be refunded immediately.

6.

**RESPONSIBILITIES**

Attention is directed to the following general matters of departmental policy:

6.1

**Disclosure of Information**

The private quantity surveyor shall not divulge any information of any kind whatsoever at any stage during the validity of this appointment or any period thereafter in respect of the works to any person whomsoever, except in cases where he has been authorised thereto in writing by the Department. The private quantity surveyor should refer to Annexure A of the letter of appointment.

6.2

## **Principal Agent and Co-ordination of Professions**

Unless otherwise stated in the letter of appointment the private architect shall be the principal agent who shall be the leader and co-ordinator of the professional team.

\*Full services covers the full field of quantity surveying services which must be provided to the private architect if required of him in terms of his duties as defined in the letter of appointment and can briefly be summarised as follows:

- (a) Establishment of an effective liason with the private architect.
- (b) Preparation of estimates (Refer to Section 7).
- (c) Application of space and cost norms (Refer to Section 8).
- (d) Preparation of bills of quantities (Refer to Section 9).
- (e) Administration of the contract (Refer to Section 10).
- (f) Preparation of the final account (Refer to Section 11) as well as inclusion of sub-contracts drawn up by the respective agents.
- (g) Implementation of the Affirmative Procurement Policy (APP) in respect of the project.
- (h) Evaluate tenders in consultation with the project manager.
- (i) Determine interim progress payments in consultation with the respective agents.
- (j) Contract Price Adjustment calculations.

The Department shall be kept posted in every respect by the submission of copies of all correspondence in the above connection.

The private quantity surveyor shall also liaise and co-operate with the other members of the professional team and ensure that his services integrate timeously with those of the other consultants at all times.

While it is the duty of the principal agent to co-ordinate the services of the various professions, the type and standard of service provided by the private quantity surveyor shall be the prerogative of the Chief Director: Development Operations. Consultations with the relevant Project Manager in the Department shall be conducted as often as necessary for the proper execution of the project.

### **6.3**

#### **Attendance at Meetings**

The private quantity surveyor shall attend meetings whenever deemed necessary for the proper execution of the project. It is advisable that visits to the site for progress valuation purposes be arranged to coincide with monthly site meetings.

The briefing meeting of the principal agent will be held as soon as possible (normally within 2 weeks of the letter of appointment) after acceptance of the commission by the members of the consultant team. At this meeting important aspects regarding the budget, the documentation program, the building program, the site, etc. will be discussed. The private quantity surveyor must attend this meeting in order to be of assistance to the principal agent when economics of design are being considered.

### **6.4**

#### **Documents**

Upon approval of the final account the private quantity surveyor shall store all documents relating to the service for three years after the date of the last payment.

### **6.5**

#### **Contract Administration and Finalisation**

The private quantity surveyor is expected to provide sound, practical pre-contract advice and documentation and to administer and finalise the contract in an unbiased, firm and contractual manner. He is also expected to liaise

with and obtain the advice of the Project Manager on any matters which cannot be dealt with strictly in terms of the contract.

6.6

### **Documentation Programme**

The period for the preparation of the draft bills of quantities, and the date for submission thereof are indicated in Annexure A to the letter of appointment.

The principal agent is required, together with other members of the professional team, to draw up a programme within one week of the date on which the briefing meeting took place embracing all aspects of the project and the private quantity surveyor is required to co-operate in this regard.

The programme agreed with the team of consultants must be forwarded to the relevant Project Manager. In the event of the programme being acceptable to the Department the private quantity surveyor will be notified accordingly. If not, the department will immediately negotiate another programme with the principal agent.

6.7

### **Tenders**

Advertising for the purpose of inviting tenders, the selection and acceptance of a tender for the execution of the works, shall be the function of the Department. The private quantity surveyor may be requested by the Department or the principal agent to evaluate or to assist with evaluating the tenders and to make recommendations. The Department will notify the private quantity surveyor of the name of the successful tenderer and the date of handing over the site.

6.8

### **Security Clearance**

If the project is security classified it will be a specific condition of the appointment that the partners and/or any staff of the private quantity surveyor who will have an overall insight into the planning of the project be limited and that such persons be prepared to submit to a security clearance. For this purpose the necessary forms will be forwarded to the private quantity surveyor and are to be completed and submitted together with the acceptance of the commission. It is important that complete information is provided. In the case of defence projects the finger print forms will be included with the letter of appointment, but for all other projects the required finger print form SAP91 (a) must be obtained from any Police Station. The private quantity surveyor must ensure that the latter form is certified by the police officer who takes the finger prints, as the form is unacceptable without such certification.

In the event of the authorities responsible for the security clearance being unsatisfied with the classification obtained by any member of the private quantity surveyor's staff, it shall be a further condition of the appointment that such member be excluded from involvement in any way in any aspect of the commission.

All documents relating to the service are to be securely stored when not in use to ensure the security classification of the project.

No liability will be admitted by the Department for any costs arising from the foregoing. The private quantity surveyor should also refer to Annexure A of the letter of appointment.

7.

## **ESTIMATES**

7.1

### **Policy**

The private quantity surveyor shall at all times accept responsibility for the accuracy of his estimates. The

decision whether to proceed or cancel a project depends directly on the estimates.

## 7.2 **Uniformity**

Estimates must comply with the prescribed format as set out in this manual.

## 7.3 **Cost Limits and Norms**

If a project is subject to norms or any other cost limits the reconciliation statements must be submitted simultaneously with the estimates. The estimate and the reconciliation statements must be based on the same date. The estimated cost of the project must at all times be reconciled with the cost limits.

Estimates for building work consisting of both functional buildings and housing must, for norms purposes be shown separately on two elemental estimate summary pages, each showing separately the values of preliminaries, buildings, site works and specialist services. A consolidated elemental estimate summary page for the total value of the project must also be provided.

See item 8 hereof for further information regarding the application of norms as well as Annexure A of the letter of appointment.

## 7.4 **Urgent Services**

The private quantity surveyor may be required to submit estimates for urgent projects in a shorter period than is normally allowed.

Urgent estimates can be forwarded to the Department by facsimile transmission. The name of the contact person in the Department and his room number must appear on the facsimile. The original estimate must be forwarded by post to confirm the facsimile.

## 7.5 **Specialist Services**

Attendance and profit on any work done as a separate or nominated sub-contract must be shown separately on the elemental estimate summary page.

Should the electrical installation or other specialist services be comprehensive (Part B, etc). it must be shown as such on the elemental estimate summary page.

Amounts for specialist services for inclusion in the building estimate must be send to the Project Manager who has it checked with the respective departmental disciplines. Amounts in respect of security services are to be subdivided into building, mechanical and electrical work on the elemental estimate summary page.

## 7.6 **Estimates Generally**

The private quantity surveyor may be required to provide a provisional estimate based solely on the accommodation particulars. He may at any time also be requested to provide information relating to an estimate or to revise any estimate.

Functional buildings, single quarters and houses as well as site works and specialist services must be shown separately.

For each estimate the rates analysis form (see Annexure A.) must be completed. The rates for all items in the

rates analysis must be inserted. Should certain of the items not appear in a project, then current rates for the region must be used.

#### 7.6.1

##### **Estimate for Project managers' meetings**

The purpose of the steering committee meeting is for the departmental disciplines to examine at an early stage the drawings for the proposed project and to introduce changes where necessary. The private quantity surveyor shall enquire from the principal agent when such a meeting is to take place. The private quantity surveyor must attend the meeting which can be of use to him to clear up design queries and to obtain information about the project and the structure from the Project Manager.

The following information must reach the Project Manager at least one working day prior to the meeting:

- (a) Elemental estimate summary (see Annexure A page 1 and 2)

The estimate must be based on historic data in order to build up an elemental cost plan for future cost planning and control.

- (b) Rates analysis (see Annexure A. pages 3 and 29)

- (c) The private quantity surveyor must state in writing whether the project is within or exceeds the norms.

The drawings are usually examined one by one during the meeting and the private quantity surveyor will be required to make the following contributions:

- (a) is the design economical
- (b) can savings be suggested
- (c) can expensive items be identified
- (d) prices of alternative materials, etc
- (e) enquiries regarding norms

#### 7.6.2.

##### **Sketch Plan Estimates**

Within 14 days after receipt of the sketch plans the private quantity surveyor must submit a sketch plan estimate to the Project Manager. The Project Manager enters the 3/1 estimate on WCS.

The private quantity surveyor shall maintain close contact with the principal agent regarding the progress of sketch plan drawings and he must notify the Department in writing should the planned date for the sketch plan estimate not be attainable.

The sketch plan estimate must consist of the following documents:

- (a) Complete elemental estimate (see Annexure A, pages 1 and 4 to 18)
- (b) Rates analysis (see Annexure A, pages 3 and 29)
- (c) A detailed explanation if the present estimate differs from the previous estimate
- (d) A detailed explanation, together with a list of suggested savings, must be submitted should a project which is subject to norms, exceed the norms laid down

The following documents must be provided for projects consisting of repair and renovation work:

- (a) Summary page of elemental estimate (see Annexure A, pages 19 to 20)
- (b) Rough quantities for each building and/or house shown separately (see Annexure A, pages 21 to 28)
- (c) Rates analysis (see Annexure A, pages 3 and 29)
- (d) A detailed explanation if the present estimate differs from the previous estimate if a previous estimate was submitted.
- (e) If the project is subject to norms and the cost limit has been exceeded, a detailed statement is required of the excess together with a list of possible savings.

### 7.6.3

#### **Working Drawings Estimate**

Within 14 days after receipt of the working drawings and layouts, the private quantity surveyor must submit a working drawing estimate to the Project Manager who enters the 4/1 estimate on WCS.

The private quantity surveyor must maintain close contact with the principal agent regarding the progress of the working drawings and inform the Department in writing should the planned date of the estimate not be attainable.

The working drawing estimate must consist of the following documents:

- (a) Elemental estimate summary page (see Annexure A, pages 1 and 2)
- (b) Rates analysis (see Annexure A, pages 3 and 29)
- (c) A detailed explanation if the present estimate differs from the previous estimate
- (d) If the project is subjected to cost norms and the cost norm has been exceeded a detailed statement is required of the excess together with a list of possible savings.
- (e) An updated complete elemental estimate (see Annexure A, pages 1 to 18) must be submitted for Correctional Services "own resources" projects.

The above requirements apply equally to repair and renovation projects (see Annexure A, pages 19, 20 and 29)

### 7.6.4

#### **Pre-tender Estimate**

The pre-tender estimate must be based on the priced draft bills of quantities and must be submitted to the Project Manager who enters the 5/1 estimate on WCS. The pre-tender estimate shall be submitted concurrently with the draft bills of quantities. The private quantity surveyor must inform the Department in writing if the planned date of the estimate will not be attainable.

The priced draft bills of quantities must be made available to the Department on request.

The pre-tender estimate must consist of the following documents:

- (a) elemental estimate summary page (see Annexure A, page 1)
- (b) Rates analysis (see Annexure A, pages 3 and 29)

- (c) Copy of the priced final summary page of the draft bills of quantities
- (d) Copy of the provisional sums of the priced draft bills of quantities
- (e) Detailed explanation if the present estimate differs from the previous estimate
- (f) If the project is subject to cost norms and the norm has been exceeded, a detailed statement is required of the excess together with a list of possible savings.
- (g) The proposed contract period in months

The above requirements apply equally to repair and renovation projects (see Annexure A, pages 19, 20 and 29)

Should a large difference occur between the private quantity surveyor's pre-tender estimate and the tender amount, the private quantity surveyor will be expected to motivate the difference, together with the reasons therefore.

#### 7.7

##### **Information for Statistical Purposes**

After the private quantity surveyor has checked the priced bills of quantities of the successful tenderer, the following information based on the priced bill of quantities, must be submitted to the Project Manager within 14 days from receipt of the priced bill of quantities:

- (a) Elemental estimate summary page (see Annexure A, page 1)
- (b) Rates analysis (see Annexure A, pages 3 and 29)

#### 7.8

##### **Demolition of existing Buildings**

Departmental approval must first be obtained before any improvements on State property may be demolished. The following information regarding the demolitions must be supplied:

- (a) Reasons for the demolition
- (b) Present value of the improvements to be demolished
- (c) Disposal value (if any) of materials recovered from the demolitions
- (d) Repair and renovation costs as an alternative to the demolition thereof
- (e) Replacement cost of the improvements to be demolished

#### 8.

##### **SPACE AND COST NORM**

#### 8.1

##### **Introduction**

Accommodation for public authorities is to be provided in accordance with the building norms as developed by the Treasury Committee for Building Norms and Cost Limits (TCBC). Building norms were developed to ensure that functional and economical buildings and facilities are provided.

#### 8.2

##### **Principles and Definitions**

### 8.2.1

#### **Planning Unit (PU)**

A planning unit is a unit that generates functional space or assignable square metres for performing a prescribed task or function such as working space needed for employees.

### 8.2.2

#### **Space Norms**

Assignable Square Metres (ASM) or functional space: Assignable square metres of a building is the space that will be assigned to a planning unit or a person to perform his task which excludes the non-assignable space that cannot be assigned to a specific task or function

Non-assignable Square Metres (NASM): Non-assignable square meters is the communal space of a building that cannot be assigned directly to a specific task or function but which is needed for the general support and commission of a building which includes:

- Circulation Space: Space required for the general access to or the connection of functional space which should include but not be limited to corridors, elevators, lift shafts, escalators, fire escape facilities, stairways, loading platforms, escalators, lobbies, tunnels and bridges. Internal circulation space within functional space such as for offices, auditoriums or any other similar space is classified as functional space.
- Custodial Space: Space required for the protection, care and maintenance of a building is classified as custodial space which should include refuse rooms, guardrooms, factotums, cleaner rooms and stores and rubbish disposal areas.
- Service Space: Space required for mechanical, electrical and communication equipment, utility services and non-private toilet conveniences which should include but not be limited to air-ducts, shafts, boiler rooms, fixed mechanical and electrical equipment rooms, fuel rooms, mechanical service shafts, meter and communications closets, service chutes, stacks and non-private toilets.
- Structural Space: Space used for the structural frame, external walls and internal divisions within which the functional and communal space is housed is classified as structural space and which also includes those unusable spaces due to the design of the structure.

### 8.2.3

#### **Cost Norms**

Cost Unit (CU): A cost unit is the monetary erection cost at a specific date of an assignable square metre of a specific space category and which includes the representative cost of the non-assignable square metres based on a fixed relationship.

Standard Cost Unit (SCUD): A standard cost unit is the norm currency with a monetary value of R1 008.32 at November 1985 which has to be escalated by a building cost index to obtain the Rand value for different dates.

Cost Unit Factor (CUE): The cost unit factor is the relationship between the cost unit and the standard cost unit at the same date.

#### Rate/assignable square metres at November 1985

Value of the standard cost unit at November 1985: .

$$= \frac{R \ 504-16}{R \ 1 \ 008-32}$$

$$= 0,50 \text{ CUF}$$



The composition of the cost unit factor (CUF) per assignable square metre (CUF/ASM) was determined by analyses done on different buildings (for every type of norm system) and is based on an effective space relationship between the assignable and non-assignable space. The value of a CUF also provides for all professional fees, contingencies and a 2,5% provision for abnormal ground conditions (Contract price adjustments are excluded from the cost norms).

Any suitable cost plan (elemental estimate) for the proposed building project can be extracted and developed further through the experience and initiative of the design team.

#### 8.24

##### **Land Improvements other than Buildings (LIOB)**

Land improvements other than buildings will be allowed as a separate cost limit and must be controlled separately. The LIOB consists of the infrastructure and site development outside the boundaries of the building which in principal makes provision for:

- Roads and parking areas
- Footpaths and landscaping
- Recreation facilities
- Site services

#### 8.2.5

##### **Building Cost Index**

The building cost index is a weighted price index and for the purpose of the building norms the Central Statistical Services P0153 Contract Price Index for buildings is used to determine the rand value of the cost limit at a fixed date. The building cost index is calculated from tender rates and includes Value-Added Tax (VAT). To obtain a tax-inclusive index for any month, (if tax is excluded from the index) the net index must be multiplied by a VAT factor (e.g. for a VAT of 14% use a factor of 1.14) The Rand value of a standard cost unit (SCUD) at a fixed date shall be calculated as follows:

$$1 \text{ SCUD} = V_x \frac{1p}{1p}$$

$$\begin{aligned} \text{SCUD} &= \text{Standard Cost Unit} \\ V &= \text{Rand value of a cost unit at the base month (November 1985)} \end{aligned}$$

$I_p$  = Contract price index at a fixed date

$I_o$  = Contract price index at the base month (November 1985)

The value of a standard cost unit for March 1991 can therefore be calculated as follows :

$$1 \text{ SCUD} \quad \text{R1 008-32} \times \frac{383.0}{165.1} = \text{R2 339-11}$$

The cost limit for the cost norm reconciliation statement is calculated with the MFA projected indices and the statement must be updated regularly when the indices are revised (see also the instructions concerning the reserve fund)

#### 8.2.6

##### **General**

Space and cost norms for buildings are based on theoretical models for each building category. Though the detail design of a specific building can differ from the theoretical models, the approved space and cost norms shall serve as the guideline to satisfy the accommodation requirements without exceeding the approved limits.

Building norms have been developed for the following building categories:

- Health service buildings (SAH NORMS)
- Educational buildings (SAPSE NORMS)
- General public buildings (OFFICE NORMS)
- Residential buildings (HOUSING NORMS)
- Prison buildings (SACS NORMS)
- Ad Hoc norms for other types of buildings

### 8.3

#### **General Conditions**

##### 8.3.1

#### **Conditions of Appointment**

It will be stated in the letter of appointment if a project is subject to space and cost limits. The Department reserves the right to enforce space and cost limits on existing projects under planning and to change the conditions of appointments accordingly.

No tender which exceeds the space and cost limits will be accepted. Any replanning that may be necessary because the limits have been exceeded, will be for the account of the consultants, jointly and severally.

Manuals for the "Application of Space and Cost Norms for Office Buildings partly or totally financed by the Government" or for other accommodation types, as well as the appropriate accommodation lists are available from the Department.

The principal agent will be responsible for ensuring and certifying that the approved limits have not been exceeded at each of the following stages before the next stage can be proceeded with:

- prior to the approval of sketch plans
- before tenders are invited
- at the completion of the project

The private quantity surveyor must provide the principal agent with all cost information including the cost information from other consultants to enable him to issue the necessary norm certificates. The private quantity surveyor will be expected to perform cost control by establishing and comparing cost plans for the proposed project during the progress of the project. He must also assist the private architect to compare the planned space with the space limit during all planning stages. The private quantity surveyor shall provide the private architect with the necessary cost information to ensure that the project is within the cost limits at all planning stages and prior to invitation of tenders.

The prescribed documentation (Annexure B) concerning space and cost limits must be prepared and submitted on time and must at all times be available for departmental inspection:

- Cost norm reconciliation statement (See Annexure B. pages 1 to 6)
- Calculation of the current planning value of the allotted cost norms (See Annexure B, pages

7 to 9)

- Summary of elemental estimates for norm purposes (See Annexure B. pages 10 and 11)
- Space norm reconciliation statement (See Annexure B. pages 12 and 13)

### 8.3.2

#### **Space Norm**

##### 8.3.2.1

#### **Space Control**

It is essential that the space provided in a project is controlled because an oversupply of space will usually result in the cost limit being exceeded. On the other hand the cost limit allowance for the project will be reduced should the planning units be under-provided. A 2% oversupply and a 10% under-provision of space is allowable on condition that the project complies with the cost limit and that all planning units have been provided. The space provided is an important planning criterion as the economical design of a building can be concluded from the assignable and the non-assignable area ratio. A favorable ratio increases the possibility that the building will comply with the cost limit.

##### 8.3.2.2

#### **Reconciliation Statements (Space Norms)**

The principal agent is responsible for ensuring that the planning complies with the accommodation requirements and that the prescribed space reconciliation statement is drawn up in accordance with Annexure B, page 12 and 13. All planning units should be provided and if not the space and cost limits will be adjusted. It is therefore recommended that accommodation reconciliation statements be drawn up by the principal agent in order to avoid replanning and possible fruitless expenditure at a later stage.

##### 8.3.2.3

#### **Certification**

Certification by the principal agent that the project complies with the space limit is essential before cost estimates and cost norm reconciliation statements are drawn up.

### 8.3.3

#### **Cost Norms**

##### 8.3.3.1

#### **Cost Control**

The cost plan is the criterion for controlling the cost of a project. The cost limit rate per square metre must therefore be used as the guideline rate for the establishment of a cost plan for the building.

##### 8.3.3.2

#### **Cost Control System**

The prescribed overall cost plan and control system (See Annexure B. pages 1 to 13) must be implemented and consultants may not use any other system. The consultants will be expected to apply sound cost control principles including inter alia the following:

- thorough pre-planning
- programmed decision making
- regular reports

- control of planning space
- the use of the estimated final cost in all reports
- the evaluation of the full implication of orders and variations
- ample provision of contingencies which might arise during construction

#### 8.3.3.3

##### **Reconciliation Statements (Cost Norms)**

If a project is subdivided into contracts/phases, reconciliation statements must be prepared for each contract/phase and its respective components (buildings, abnormal ground conditions, ground improvements, approvals, recreation facilities, reserve funds, professional fees, etc). Sub-contracts with other tender dates must be converted to the tender date of the main contract. The space and cost limits for each contract/phase must be determined according to each accommodation provision. The space and cost control statements must include the different contracts/phases with the costs converted to a common date. Thereafter the total must be converted to the original TCBC approval date.

Valued-Added Tax (VAT) must be included in the estimated amounts for the purpose of reconciliation with the cost limits.

#### 8.3.3.4

##### **Separate Cost Limits and Cross Funding**

Where separate cost limits have been determined within a project each is to be controlled separately. Reconciliation with respect to each cost limit is to be done separately. No cross funding will be allowed unless written permission with respect to each instance is obtained from the Department.

Where cross funding is permitted, each cost limit is to be controlled separately and cross funding is to be shown. (Refer to Annexure B for an example of cross funding of one contract to another and from one component to another).

#### 8.3.3.5

##### **Abnormal Ground Conditions**

2.5% of the value of a cost unit factor (CUF) provides for abnormal ground conditions. Should this provision be exceeded for a specific project, the Department will firstly consider moving the project to another site. Should no alternative site be available after site investigations and analyses have been completed, the said limit can be increased accordingly by the Department and be treated as a separate cost limit. Requests for permission to increase the cost limit for abnormal ground conditions should always be accompanied by the necessary motivation. The influence of abnormal site conditions must be accurately monitored from the beginning of the planning.

#### 8.3.3.6

##### **Reserve Funds**

Reserve funds must at all times be maintained and must be in existence when the tender is accepted. The reserve funds must make provision for all possible unexpected expenditure including claims, unfavorable tenders, variations, price fluctuations, etc. Provision for the following reserves is to be made:

- A 5% reserve fund for contingencies for use by the consultants for variations, unforeseen developments, claims, etc is recommended. Should there be no reserve for contingencies at the date of tender, savings must be made in order to provide for contingencies.
- A 5% Departmental reserve fund which may only be expended with the approval of the Chief Director Development Operations.

- Credit balances arising out of the acceptance of favorable tenders are to be carried over to a further reserve fund under control of the Sub Directorate: Administration Services.

#### 8.3.3.7

##### **Professional Fees**

Professional fees must always be shown in the reconciliation statements on the basis of estimated final cost and not on a percentage allowance.

#### 8.3.3.8

##### **Land Improvements other than Buildings (LIOB)**

Land improvements other than buildings are initially calculated on a percentage of the building norm and after the site investigation has been completed and estimated, it will be approved on an ad hoc basis by the Department and will be transformed into a cost unit which may not be exceeded.

The feasibility for the execution of the project on the proposed site must be calculated during the initial design stage with special consideration of the cost implications of the abnormal ground conditions, site developments (other than buildings) and infra structures outside the site boundaries. If the site is found not viable the Department must be informed immediately so that consideration can be given to moving the project to a more economical site if available. The LIOB must always be designed economically.

#### 8.3.3.9

##### **Tenders**

If a project is subject to space and cost limits, tenders for specialist work i.e. electrical work, lifts, air conditioning etc should as far as possible close on the same day as the main contract in order that the cost of possible unfavorable tenders may become apparent as soon as possible.

#### 8.3.3.10

##### **Post-contract Escalation**

Post-contract escalation is excluded from the norm system, as well as the pro rata amount of professional fees on escalation. For purposes of control, at the end of each project a reconciliation of final costs must be made.

#### 8.3.3.11

##### **Fixed Price Contracts**

The amount of post-contract escalation included in fixed price contracts need to be identified in time so that adjustments can be incorporated into the system.

#### 8.3.4

##### **Guideline Cost Limits**

The Department will approve a fixed space and cost limit for each project except for that part of the project for which norms do not exist and for which guideline cost limits will be determined by the Department. Guideline cost limits will be determined in the following instances:

#### 8.3.4.1

##### **Space Categories for which fixed Norms do not exist**

Guideline cost limits will be determined for space categories for which fixed norms do not exist based on the most acceptable existing building norms which fit the conditions best or a combination thereof. The guideline cost limits will be finalised by the Department in consultation with the user Department after the consultants have investigated the space and cost requirements.

#### 8.3.4.2

## **Alterations and Renovations**

Guideline cost limits for alterations and renovations will initially be based on an economical scale for the upgrading of a normal building. The estimated cost of the essential work can possibly be accepted as the adjusted cost limit for the works depending on the viability. An elemental estimate (See Annexure A) for the service must be submitted for evaluation by the Department in order that either the cost limit be raised or the demolition of the building be considered.

### 8.3.4.3

#### **Abnormal Ground Conditions**

- SEE 8.3.3.5 HEREOF

### 8.3.4.4

#### **Security Systems**

The cost limit for security will be based on a fixed percentage of the building cost calculated in accordance with a fixed percentage scale for specific building categories which will be finalised by the Department in consultation with the user Department after the consultants have investigated the security requirements. Security comprises entrance control to buildings, which includes security fences and gates, metal detectors, x-ray machines, revolving gates, closed circuit television cameras, electrically controlled doors and locks and electrical control panels.

### 8.3.4.5

#### **General**

If the approved guideline cost limits are found to be inadequate, early revision must be obtained from the Department and if over-provided the guideline cost limit will be reduced by the Department in accordance with the estimate.

## 9

### **PREPARATION OF BILLS OF QUANTITIES**

#### 9.1

##### **Format**

Bills of quantities must be produced on size A4 paper with suitable front and back covers, and bound in the top left hand corner. Bills of quantities may not be bound in book form.

#### 9.2

##### **Lay out**

##### 9.2.1

###### **Cover and Insert Sheet**

See "Preliminaries etc. forming part of Bills of Quantities" (OW772).

##### 9.2.2 **Index**

A comprehensive index must be provided in accordance with the example given in the document "Notes to Consultant Quantity Surveyors on the Preparation of Bills of Quantities" (QS 37/E).

##### 9.2.3

###### **Sections**

A single comprehensive document is preferred provided the individual buildings or sections can be extracted

when cost information is required by the Department. However if this method is considered impracticable, the following alternative methods may be used:

- (a) Each individual building may be billed as a separate section complete with a section summary.
- (b) Buildings of similar construction may be billed under one section by a method of billing whereby the quantities of each individual building are shown separately under the description of each item, the quantities of all types then being totaled and inserted in the quantity column.

#### 9.2.4

#### **Collections and Summaries**

The total on each page must be carried to a collection of each trade. Each trade total must be carried to a summary of each section. The total of each section must be carried to a final summary.

#### 9.2.5

#### **References**

Every page must contain the WCS number in the top right hand corner, and the section number and an abbreviation of the applicable trade at the bottom left hand corner.

#### 9.2.6

#### **Contingency Amount**

The contingency amount must not appear in the bills of quantities.

#### 9.2.7

#### **Credit Items**

Should the project involves demolition or alteration work from which credit can be expected provision must be made in the bills of quantities for pricing the credit individually against the items. Provision must be made to transfer the credit amounts to an item of "Credit for old materials forms demolitions/alterations" on the final summary page which is deducted from the subtotal after VAT.

#### 9.2.8

#### **Addendums**

Addendums such as "Contract Price Adjustment Provisions", drawings, diagrams, soil reports, etc which are to be bound into the bills of quantities, must be printed on size A4 paper, bound in after the final summary and APP specifications (if applicable) preferably separated from each other with a coloured sheet.

#### 9.3

#### **Information**

##### 9.3.1

#### **Drawings etc.**

The private quantity surveyor may not proceed with the preparation of bills of quantities unless instructed to do so by the Project Manager. The private quantity surveyor shall immediately inform the Project Manager in writing upon receipt of the working drawings from the private architect and/or engineer. Any outstanding drawings or information must be brought to the attention of the Department.

The private quantity surveyor will be supplied with the following documents listed below by the Project Manager and it is incumbent on the private quantity surveyor to ensure that these documents have been received:

- (a) Conditions of Contract (OW677)

- (b) Specification of Materials and Methods to be used (OW371)
- (c) Drainage Details
- (d) Hardware sample List (OW 377)
- (e) Notes to Consultant Quantity Surveyors in the Preparation of Bills of Quantities (QS 37E).
- (f) Preliminaries etc. forming part of Bills of Quantities for the Department of Public Works (OW772). addendum A Contract Price Adjustment Provisions (CPAP) and Addendum B: Model Bill: Training for contracts with an estimated contract period of 6 months and more.
- (g) Manual for Private Quantity Surveyors appointed by the Department (QS 90E).
- (h) Affirmative Procurement Policy (APP) documents (only when a certain contract has been identified to include APP and NPWP principles).

### 9.3.2

#### **Soil Report**

If a soil report is available it must be included in the bills of quantities. It is incumbent on the private quantity surveyor to ask for such a report from the private architect and to ensure that soft and hard rock quantities in the bills line up with the information in the report.

### 9.3.3

#### **Existing Buildings and Demolitions**

If existing buildings are involved or demolitions are necessary, the private quantity surveyor must inform the Department in writing and initiate discussion on procedure clauses with the relevant Project Manager.

### 9.3.4

#### **Tendering Systems**

During the sketch plan stage a decision is made on the tendering method in respect of the main and sub-contracts for engineering and specialist services. Apart from the normal open comprehensive tendering system used by the Department, the following systems are also employed:

- (a) Selected Tenderers (Main contractors): Selected tenderers are to be used in cases where the work is of a specialised, complicated nature and very urgent or where, for security reasons, restrictions must apply. Tender Board approval will not easily be obtained and this system must be employed only in exceptional cases. Applications for the use of this system must be made in good time, because Tender Board has the right to question its use or even deny it.
- (b) Pre-selected Tenderers for Norms System (Main Contractors and Sub-contractors): Pre-selected tenderers for norms system are only to be used for larger contracts which are subject to cost limits and on special request by the consultant team responsible for meeting the cost limits - where a decision to enter into a contract within such limits is critical to the successful execution of the project.

### 9.3.5

#### **Forms of Contracts and Sub-contracts**

During the sketch plan stage a decision is made on the forms of contracts in respect of the main contract and sub-contracts for engineering and specialist services.

Either one or all of the types listed below may be used. (For full details of preambles see the document "Provisional Sums"). The private architect will provide a list of the different sub-contracts, which are to be incorporated into the bills of quantities. The private quantity surveyor will not be allowed to include any other



work as a sub-contract in the bills of quantities.

- (a) Comprehensive Contracts: The Department's policy is to use comprehensive contracts where ever possible. While all documentation should preferably be done by one consultant in the interest of a uniform, integrated tender document, separate documents can nevertheless be prepared by the relevant specialist consultants and issued as part B and/or C of the bills of quantities with building work forming part A. Provision is to be made in the final summary of the bills of quantities for the totals of parts B and/or C. At tender stage the total at the end of the final summary will be adjudicated which includes VAT.

The contractor will call for quotations and make ordinary (domestic) sub-contract appointments for work included as parts B and/or C in his comprehensive documents.

- (b) Nominated Sub-contractors: Nominated sub-contractors must be avoided if possible with preference being given to the inclusion of the work in the documentation for the main contract. Nominated sub-contractors are only to be used in cases where the work content is highly specialised, has a high content of imported materials and the evaluation of offers would necessarily have to be done by specialist consultants, e.g.. air conditioning, lifts, transformers, emergency generating installations, fire detection installations, electronic communication installations, escalators, baggage conveyors, etc.

A provisional amount is to be allowed in-the bills of quantities for the specific specialist work. Documents must be prepared by the relevant consultants and tenders will be invited by the Department. The successful tenderer will become a nominated sub-contractor to the main contractor.

- (c) Selected Sub-contractors: The considerations which apply to the selected tendering system for main contractors apply equally to sub-contractors. (See 9.3.4 (a) hereof).
- (d) Pre-selected Sub-contractors for Norms System: Pre-selected sub-contractors are only to be used for large contracts which are subject to cost limits and on special request by the consultant team responsible for meeting the cost limits - where a decision to enter into a contract within such limits is critical to the successful execution of the project.

The pre-selection of sub-contractors is done simultaneously with the pre-selection of main contractors (See 9.3.4(b) hereof).

- (e) Selected Domestic Sub-contractors: Selected domestic sub-contractors are used in cases where it is known that only 2 or 3 specialists are available, or capable of executing the work, or where there is a need to use only accredited specialist sub-contractors, e.g.. for lightning protection.

A provisional amount is to be allowed in the bills of quantities for the specific specialist's work. The Project Manager will call for tenders from specialists nominated by the Department on documents prepared by the Department or the relevant consultant. The Project Manager, the contractor and the relevant consultant in consultation with the Department will adjudicate the tenders. The contractor will upon the final decision of the Project Manager appoint the successful tenderer who will become a selected domestic sub-contractor to the main contractor.

- (f) Direct Domestic Subcontractors: Direct Domestic Sub-contractors are used for specialists work of a minor scope where design and quantities involved are unknown at documentation stage e.g.. notice boards, lettering, etc..

A provisional amount is to be allowed in the bills of quantities for the specific specialist work. The Project Manager will call for tenders from firms nominated jointly by himself, the contractor and the Department. The Project Manager will call for tenders from firms nominated jointly by himself, the contractor and the Departmental Specialists will adjudicate the tenders. The contractor will upon the final decision of the Project Manager appoint the successful tenderer who will become a direct domestic sub-contractor to the contractor.

- (g) Separate Contracts: Separate contracts are to be avoided as far as possible. It is only to be considered in cases where the work involves the installation only of equipment near the completion of the works e.g.. X-ray machines, refrigerators and other loose standing equipment. No physical work is required from the main contractor.

Documents will be prepared by the relevant consultants. The Department will invite tenders and enter into direct contracts, separate from the main contract.

#### 9.3.6

##### **Provisional Sums and PC Items**

Only with the prior approval of the relevant Project Manager may a provisional sum or a prime cost item be inserted in the bills of quantities.

#### 9.3.7

##### **Lightning Protection**

Lightning protection should be measured but may be allowed as a selected domestic sub-contract after consultation with the relevant Project Manager.

#### 9.3.8

##### **Making Good**

Where appropriate, provisional items must be given under separate headings to cover the cost to the contractor for performing ancillary work and for making good after the specialist sub-contractors.

#### 9.3.9

##### **Queries**

All queries relating to the design or finish of the buildings, or to the structural design of a framed structure. must be referred to the private architect or engineer for a decision. In cases where no satisfactory reply is obtained, or where the delay in obtaining the replies or detail drawings is of such a nature as to render compliance with target dates impossible, it must immediately be brought to the attention of the relevant Project Manager so that the necessary action can be taken.

#### 9.4

##### **Measuring**

#### 9.4.1

##### **Commencement of Measuring**

Only upon receipt of working drawings approved by the Department, and after the private quantity surveyor has established that the project still complies with the norms, and after instruction has been received from the Project Manager may measuring work be commenced. Any measuring work prior to the abovementioned instruction being given is done at the private quantity surveyor's own risk.

#### 9.4.2

##### **Standard System**

Bills of quantities must be prepared in accordance with the current edition of the Standard System of Measuring Building Work. If certain deviations are deemed necessary the relevant Project Manager must be consulted before bills of quantities are drawn up.

#### 9.4.3

##### **Measuring**

All work where possible must be measured. Prime cost items and provisional sums must be avoided.

#### 9.4.4

##### **Provisional Work**

Firm measurement of all work where possible, is essential and is preferred for foundations, plumbing and drainage.

#### 9.4.5

##### **Alternative Tender for Face Bricks**

Alternative tenders for face bricks other than those measured must be included in the bills of quantities after the final summary. The private quantity surveyor is referred to the document "Notes to Consultant Quantity Surveyors on the preparation of Bills of Quantities (QS 37/E)" for the documentation and procedures to be followed.

#### 9.4.6

##### **Prefabricated Roof Trusses**

Provision must be made for the tenderer if he so prefers to tender alternatively for prefabricated roof trusses in lieu of conventional roof trusses. The private quantity surveyor is referred to the document "Notes to Consultant Quantity Surveyors on the preparation of Bills of Quantities (QS 37/E)" for the documentation and procedures to be followed.

#### 9.4.7

##### **Kitchen Equipment**

Kitchen equipment must be measured and billed under "Metalwork" or as a separate trade. All the items must be grouped together and may not be billed in different trades or sections of the bills of quantities. The standard preambles and descriptions can be obtained from the Project Manager.

#### 9.4.8

##### **Discrepancies**

Discrepancies between the drawings, specification and/or any other instruction which may become apparent during the preparation of the bills of quantities, must be brought to the notice of the private architect and/or engineer so as to ensure that the bills of quantities, specification and drawings are in agreement in all respects before tenders are invited.

#### 9.4.9

##### **Marked-up Drawings**

Immediately after completion of the measuring all marked-up drawings are to be handed to the private architect and/or engineer in order that the original drawings may be corrected.

#### 9.5

##### **Descriptions**

#### 9.5.1

##### **Preliminaries**

The document "Preliminaries etc. forming part of Bills of Quantities (OW772)" contains the preliminaries required to be used in bills of quantities, together with explanatory notes and with the Contract Price Adjustment Provisions as Addendum A and Model Training Bill as Addendum B.

The private quantity surveyor must complete the Schedule of Supplementary Information of the Preliminaries

after consultation with the Principal Agent/and/or Project Manager before submitting the draft bills of quantities for scrutiny.

#### 9.5.2

##### **The Project Manager**

Where necessary references in the bills of quantities must be made to the Project Manager and not to the private architect or private engineer. Where it is necessary to describe specific work as being "to approval" it is to be described as "to the approval of the Project Manager."

#### 9.5.3

##### **Imported Articles**

All materials, articles, etc. must be of South African manufacture and must not be imported. The intended use of any imported material or article must be reported to the relevant Project Manager will decide if the imported item may be used.

#### 9.5.4

##### **Trade Names**

The use of trade names or catalogue references in descriptions must be avoided as it may give rise to accusations of favouritism of certain manufacturers and suppliers. Items must be described fully and referred where possible to the relevant SABS specifications or, where these do not exist, to quality and performance specifications. Where a specific manufacturer or brand name is required by the private architect to match existing, or where it is impossible to fully describe any particular item, the private quantity surveyor must request the private architect to obtain the written approval of the Project Manager to use trade names in such instances. This approved list must be submitted with the draft bills of quantities. Trade names on drawings or in other documents must be pointed out by the private quantity surveyor to the private architect/ engineer who must remove and replace them with general descriptions.

#### 9.5.5

##### **Specification of Materials and Methods to be used (OW371)**

The "Specification of Materials and Methods to be used (OW371)" must not be bound into the bills of quantities but will be issued by the Department to tenderers on request.

Short descriptions may be used in bills of quantities to line up with full descriptions in the above specification, but care must be taken to use the same terminology as the Specification for easy reference. Full descriptions or additional preambles must be provided for items/materials not covered by the above specification.

#### 9.5.6

##### **Engineering Work**

Contractual clauses and principles from engineers' specifications, preambles, etc. must be carefully edited and can be included in bills of quantities only if they are supplementary to the Conditions of Contract or the Standard Preliminaries, but are to be excluded if found to be inconsistent with the Conditions of Contract or Preliminaries. (The documents supplied by private engineers are often for lump-sum contracts or engineering contracts and therefore not compatible with normal sub-contract work or bills of quantities).

If descriptions and quantities supplied by the private engineer are incorporated into the bills of quantities, these are to be checked and scrutinised for correctness and for contractual soundness, as the private quantity surveyor and not the private engineer will be held responsible for such items and quantities

#### 9.6

##### **Documentation Program**

See Annexure A to letter of appointment for preliminary target dates. The Project Manager will issue the instruction to proceed with the preparation of the bills of quantities and will determine a firm date for the submission of the draft bills of quantities.

9.7

#### **Draft and Number of Printed Bills**

One copy of the typed draft bills of quantities together with a list of approved trade names if applicable, as well as a pre-tender estimate and a norm reconciliation statement must be submitted to the relevant Project Manager for scrutiny. The draft will be scrutinised and returned together with an "Information Form (PRM 012)" containing information about the contract period, penalty, number of copies, delivery date of printed bills, etc. Only when this instruction is received may duplication or printing of bills of quantities proceed. The scrutinised draft is to be stored in the private quantity surveyor's office until settlement of the final account. Although the Department shall have scrutinised the bills of quantities the private quantity surveyor shall nevertheless be held responsible for the document meeting the needs of the project.

9.8

#### **Amendments to Bills out to Tender**

Any errors in or amendments to bills of quantities out to tender are to be reported immediately to the Department by the private quantity surveyor. The revision sheets or information in the form of an addendum document are to be handed to the Project Manager who will issue the document to all tenderers concerned. The private quantity surveyor is expressly forbidden to issue any amendment or additional or supplementary information directly to tenderers in any manner whatsoever.

It must also be noted that the tendering regulations do not allow that the contents of tender documents be varied during the last ten days of the tendering period.

10

### **CONTRACT ADMINISTRATION**

10.1

#### **Scrutiny of Priced Bills of Quantities**

The Project Manager must be notified immediately when the priced bills of quantities are received from the successful tenderer.

The private quantity surveyor must check that the priced bills of quantities are priced in accordance with clause A2 of the preliminaries. All alterations are to be discussed with the contractor.

The priced bills of quantities for the electrical work (part B) must be referred to the consultant electrical engineer for checking and then returned to the private quantity surveyors' office.

Four sets of copies of parts A and B of the bills of quantities are to be made. One set is to be retained by the private quantity surveyor for his records, one set is to be handed to the contractor and *one* set to the principal agent.

The original set plus one copy is to be forwarded to the Project Manager within 21 days of receiving the priced bills of quantities from the contractor.

10.2

#### **Handing over of Site**

The private quantity surveyor must be present at the handing over of the site to enable him to meet and liaise with the members of the professional team.

10.3

### **Financial Reports**

To ensure that progress is being monitored and that financial control is being exercised, the private quantity surveyor is required to submit a monthly cash flow and to complete the attached Contract Status Report PRM 036 (1). Financial Report PRM 036 (2-8) and Cost Norm Report PRM 36 (9) (See Annexure C) on a monthly basis and an Annual Cash Flow for Budgeting Purposes PRM 036 (10) and to submit them to the Project Manager through the Principal Agent. The forms should be used unaltered and submitted up to and including the date of submission of the final account.

10.4

### **Site Meetings**

The private quantity surveyor must attend site meetings whenever required to do so by the Project Manager or the principal agent.

The private quantity surveyor must regularly scrutinise minutes of site meetings as well as site instructions in order to ensure that any item affecting costs is immediately verified by the principal agent by means of an official variation order.

10.5

### **Progress Payments**

Valuations for progress payments must be made in accordance with the conditions of contract on form PRM 034 obtainable from the Project Manager and submitted to the principal agent for approval.

10.6

### **Imposition of Penalty Clause**

As soon as an overrun of the contract period occurs it must be reflected on form PRM 034 by means of a deduction in terms of the penalty clause, using the number of days overrun at the date of completion of the form, unless an extension of time has been granted or the imposition of the penalty has been waived partially or completely in writing by the Director-General.

10.7

### **Variation Orders**

The principal agent is responsible for the issuing of all variation orders.

The private quantity surveyor is required to prepare estimates of cost for all variation orders issued by the principal agent. In this regard the private quantity surveyor should not hesitate to advise the principal agent of more economical solutions or possibilities.

10.8

### **Daywork**

Extras and variations may only be based on daywork in cases where it is not possible to use schedule or market rates and only the Director-General may authorise dayworks.

10.9

### **Claims**

Claims for additional costs arising from clause 25 of the Conditions of Contract (OW 677) i.e. for work that can not be measured and priced in the normal manner as set out in the Conditions of Contract, must be submitted to the Department for approval as soon as possible together with a recommendation by the private quantity surveyor. No payments are to be made to the contractor for a claim unless it has been approved by the Director-

General in writing.

11  
**FINAL ACCOUNT**

11.1  
**The Final Account**

The final account must be finalised in strict accordance with the Conditions of Contract and must comply with the requirements as stated in Certificate of Compliance and Indemnity by Consultants PRO 044 (See Annexure D) which is to be signed and attached to the final account. The final account must be submitted **not later than three months after the date of first delivery**.

The private quantity surveyor must retain a copy of the final account for himself.

11.2  
**Numbering of Pages**

All pages of the final account (except the cover page) are to be numbered consecutively at the bottom centre of pages.

11.3  
**Pricing**

Schedule rates must be referenced. References must preferably be abbreviated, e.g. "item 10 page 36" can be abbreviated as "10/36".

Non-schedule rates must be determined in terms of the Conditions of Contract and details of the price build-up may be given either on the back of the preceding page or as a separate document, property referenced.

11.4  
**Typing, etc**

The final account must be typed. Typing must be on one side of pages only. Omissions are to be shown first, then additions and totals carried separately to the summary. The summary pages are to have double money columns - the omissions to be totaled in the left hand column and additions in the right hand column.

11.5  
**Invoices, etc**

All invoices, receipts, etc referred to and supporting documents e.g. nominated sub-contractor's work, etc must be included with the final account and clearly cross referenced to the relevant item to which they refer.

11.6  
**Order of Items**

The item numbers in the final account are to coincide preferably with the variation order (VO) numbers, e.g. Item 1 to be VO 1. Etc.

A condensed heading is to be given for each item. In some cases it may be more practicable to combine two or more VO's, in which case it must be stated in the heading.

Provisional and other items should appear after the VO's, logically grouped and numbered consecutively more or less in the order of the bill of quantities, ie the first items after the last VO will probably be the remeasurement of foundations, with the remeasurement of the drainage, water supplies, etc appearing near the end.

11.7  
**Remeasurement of Foundations**

When foundations are remeasured all the relevant items of each building are to be completely omitted and remeasured as executed. The practice therefore of treating items as "not revised" is not acceptable.

11.8

#### **Stormwater Drainage, Soil Drainage, Water Supplies, Sanitary Plumbing, Fencing, etc**

Stormwater drainage, soil drainage, water supplies, sanitary plumbing, fencing, etc should be remeasured per section and be dealt with on the basis of total omission and total addition. Each of these sections should be carried as a separate omission and addition to the summary. This will result in any large saving or extra being highlighted in the summary.

11.9

#### **Provisional Quantities**

All items with provisional quantities must be remeasured or adjusted and dealt with along the lines stated for the remeasurement of foundations, drainage, etc. In certain cases items such as hat and coat hooks, notice boards, etc may have been executed exactly the same as measured in the bill. If this has been verified on the site it is permissible to note this under a heading:

#### **THE FOLLOWING PROVISIONAL QUANTITIES HAVE NOT BEEN VARIED**

Hat and coat hooks as 69 and 70/113 Key

hooks as 29/117

11.10

#### **Variations "at no Variation in Cost"**

When contractors claim that a variation is "at no variation in cost", the Project Manager may agree with this but the responsibility remains with the private quantity surveyor to ensure that there is no saving on the item before including this item in the final account under "no variation in cost."

11.11

#### **Contract Price Adjustment**

Contract Price Adjustment (CPA) certificates must be attached to the final account. The date of the principal agent's (architect's) payment certificate and not the valuation date should be used for calculating the CPA. CPA for the electrical installation must be calculated by the private quantity surveyor. The amount for each payment must be obtained from the private engineer as well as the portion thereof not subject to adjustments.

An extended completion date may only be taken into account for contract price adjustments calculations if it had been approved departmentally

11.12

#### **Contractor's Assistance**

All necessary information, supporting documents and remeasurements necessary for the complete settlement of variations, adjustments of provisional quantities and any claims relating to the contract shall be collected and processed by the private quantity surveyor during the course of the building operations. The practice of attending to these only after completion of the construction work, is totally unacceptable. The settlement of the final account should by no means be dependent on the contractor if this procedure is strictly adhered to. The **excuse of "waiting for the contractor"** shall under no circumstances be acceptable.



The private quantity surveyor shall be held responsible for any loss or damage arising from the late completion of a final account. Any possible future appointment of the private quantity surveying firm concerned will inevitably be influenced thereby. The practice of allowing the contractor to price items, is unacceptable.

11.13

#### **Variation Orders**

It is essential that variation orders in writing be obtained for all variations having a cost implication and for sundry claims from the contractor included in the final account with the exception of provisional items which imply remeasurement. Where variation orders are not available an explanation should be given.

Copies of all approved variation orders and daywork sheets must be handed in with the final account.

11.14

#### **Extension of Time**

Extension of the contract period will only be valid if granted in writing by the Director-General.

Penalties are to be deducted for any delay in the completion of the contract unless departmentally condoned in writing. Copies of such condemnation shall be attached to the final account.

11.15

#### **Payment of Retention Money**

Release of retention money will only be certified after a First Delivery Certificate (PRM 040) has been issued according to clause 23(2)(e)(ii) or (0(1) of the Conditions of Contract.

When releasing retention money after first delivery the conditions as stipulated in clause 23(2)(e)(ii) to (f)(iii) of the Conditions of Contract must be strictly adhered to.

A further interim payment shall be made if deemed necessary or if justifiable according to the final account.

11.16

#### **Cover Page and Final Statement**

Refer Annexure E

11.17

#### **Billing of Final Account**

Refer Annexure E

11.18

#### **Issuing of Final Account**

Only after the final account has been approved by the Director-General, will it be issued by the Department to the contractor for signature. The private quantity surveyor may therefore not issue the final account to the contractor for signature.

11.19

#### **Overpayments**

As soon as an overpayment to the contractor becomes evident the Project Manager must be notified immediately and subsequently the matter must be confirmed in writing stating the reasons for such overpayment.

11.20

#### **Cost Norms Reconciliation**

Should cost norms be applicable to the service, a final cost norms reconciliation statement must be submitted with the final account.

**EXAMPLES OF ELEMENTAL  
ESTIMATES AND RATES  
ANALYSIS**

**EXAMPLES OF ELEMENTAL ESTIMATE AND  
RATES ANALYSIS FOR  
A NEW PROJECT**

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR HOUSES, ETC.  
WCS 0070

Date (price level) : 97/06  
Building Cost Index: 2146.77  
PWD-Tariff : 307.02

## SUMMARY

SECTION	Gross Area	Rate	Amount	%	Factor
Preliminaries	8%		R 351.117	7.3%	-
House type A1 (x6)	m 786	1547.43	R 1,216,278	25.3%	-
Garages (x6)	m <sup>2</sup> 162	1205.89	R 195,354	4.1%	-
Maisonettes WA2/WA2S (x5)	m <sup>2</sup> 1255	1474.97	R 1,851.085	38.5%	-
<u>Site works</u>	m» 2203	198.18	R 436,598	9.1%	-
Sewerage	m 588	94.96	R 55.836		
Site preparation	m <sup>2</sup> 2203	45.34	R 99.884		
Paving	m <sup>2</sup> 920	74.15	R 68.218		
Boundary walls	m <sup>2</sup> 2203	43.72	R 96,315		
Special items	m <sup>2</sup> 2203	29.23	R 64,394		
Water reticulation	m 480	108.23	R 51,950		
<u>Specialist services</u>	m <sup>2</sup> 2203	313.05	R 689.643	14.3%	-
<u>Electrical installation</u>	m <sup>2</sup> 2203	198.39	R 437.047		
Provisional amount	m <sup>2</sup> 2203	188.94	R 416,235		
Attendance & profit	5%		R 20,812		
<u>Airconditioning</u>	m <sup>2</sup> 2203	8.82	R 19,430		
Provisional amount	m <sup>2</sup> 2203	8.40	R 18.505		
Attendance & profit	5%		R 925		
<u>Fire detection</u>	m <sup>2</sup> 2203	35.28	R 77,722		
Provisional amount	m* 2203	33.60	R 74,021		
Attendance & profit	5%		R 3,701		

Security	m <sup>2</sup>	2203	70.56	R	<u>155,444</u>		
Electrical work	m <sup>2</sup>	2203	33.60	R	74,021		
Mechanical work	m <sup>2</sup>	2203	16.80	R	37,010		
Building work	m <sup>2</sup>	2203	16.80	R	37,010		
Attendance & profit		5%		R	7,402		
SUBTOTAL A	m <sup>2</sup>	2203	2151.64	R	4,740,074	98.6%	-
** TRAINING		1.4%		R	66,361	1.4%	-
SUBTOTAL B	m <sup>2</sup>	2203	2181.77	R	4,806,435	100.0%	-
VAT (14%)	m <sup>2</sup>	2203	305.45	R	672,901	14.0%	-
TOTAL	m <sup>2</sup>	2203	2487.22	R	5,412,975	114.0%	

•Factor = Elemental rate/PWD-tariff

•Training = Training for 6 months and more contracts

## DEPARTMENT OF PUBLIC WORKS : RATES ANALYSIS

Contract Number . . .	WCS 0070	Document.....	Sketch plan estimate
Project . . . . .	Balfour Housing,etc	Date.....	97/06
Prelimanaries. . . . .		7.3%	R 351117.00
Buildings		61.4%	R 2953343.00
Electrical work		8.7%	R 416235.00
Mechanical work		9.0%	R 434740.00
Security		3.1%	R 148041.00
External works		9.1%	R 436598.00
Training		1.4%	R 66361.00
Subtotal		100.00%	R 4806435.00
VAT		14.00%	R 672900.90
Total		114.00%	R 5479335.90

BUILDING WORK	QUANT	RATE		AMOUNT
1 Excavate for trenches	76	25.90	R	1968.40
2 Concrete strip foundtn	15	407.00	R	6105.00
3 Reinf conc in sales	23	499.00	R	11488.50
4 Formwork to slabs	93	74.00	R	6882.00
5 Reinforcement (Kg)	906	4.63	R	4194.78
6 Half brick wall	84	54.58	R	4584.72
7 One brick wall	84	109.15	R	9168.60
8 Hollow wall	84	118.40	R	9945.60
9 Face brickwork	84	590.20	R	4972.80
10 Profile or tile roofing	279	49.50	R	13396.05
11 38 x 114mm roof timbers	305	15.73	R	4797.65
12 Gypsum ceilings only	186	26.83	R	4990.38
13 44mm semi-solid door	10	360.75	R	3607.50
14 Vinyl tile floors	84	55.50	R	4662.00
15 Four lever lock	10	107.30	R	1073.00
16 Steel door frame	10	170.20	R	1702.00
17 Steel window /m2	9	266.40	R	2397.60
18 25mm screed	42	22.20	R	932.40
19 Internal Plaster	334	16.65	R	5561.10
20 White glazed tiles	8	83.25	R	666.00
21 3mm glass	9	79.55	R	715.95
22 PVA plastered walls	334	15.73	R	5253.82

INDEX (Amnt (A) + R5105.62 x 100)=	R	2164.77 (C)	(A)R	109605.85
+ 14% VAT Added	R	2447.32 (D)	(B)R	124950.67
RATE (Amnt (A) + 375m <sup>2</sup> ) =	R	307.02 (E)		
+ 14% VAT Added	R	350.00 (F)		

SANITARY FITTINGS	QUANT	RATE		AMOUNT
23 WC-suite	1	777.00	R	777.00
24 Wash hand basin	1	462.50	R	462.50
25 Stainless steel sink	1	1147.00	R	1147.00
26 20mm Galv. Steel pipe	2	25.90	R	51.80
27 100mm Cast iron pipe	5	107.75	R	508.75
28 100mm Vitreous pipe	4	55.50	R	222.00

**ANNEXURE A**

INDEX (Amnt (G) + R164.20 x 100) =	R	1929.99 (I) RATE	(G) R	3169.05
+ 14% VAT Added	R	2200.19 (J)	(H) R	3612.72
<hr/>				
REINFORCED STRUCTURE		QUANT	RATE	AMOUNT
29 Reinforced concrete		1	499.50	R 499.50
30 Formwork for slab		8	74.00	R 592.00
31 Reinforcement (Kg)		130	4.63	R 601.90
<hr/>				
INDEX (Amnt (K) + R71.70 x 100 ) =	R	2361.79 (M) RATE	(K) R	1693.40
+ 14% VAT Added	R	2692.44 (N)	(L) R	1930.48
<hr/>				



## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR HOUSES

Date (price level) : 97/06

WCS 0070

Building cost-index: 2146.77

PWD-Tariff: 307.02

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor	
HOUSE TIPE A1 (ONLY ONE)	m <sup>2</sup> 131	1671.22	R 218.930	100.0%	5.44	
Description	Unit	Quant	Rate	Amount	%	Factor
Preliminaries		8%		R 16,217	7.4%	
Subtotal				R 202,713		
=====						
<u>Foundations</u>	m <sup>2</sup>	131	61.02	R 21,094	9.6%	0.52
Strip foundations:						
One brick foundtn 600 x 220mm	m	58	83.18	R 4,824		
Half brick foundtn 450 x 220mm	m	46	63.38	R 2,915		
Foundation walls:						
One brick wall	m <sup>2</sup>	86	109.15	R 9,387		
Half brick wall	m <sup>2</sup>	18	54.58	R 982		
Facings	m <sup>2</sup>	27	59.20	R 1,598		
Special circumstances:						
Allow for hard rock-15%	m <sup>2</sup>	131	10.58	R 1,386		
<u>Ground floor construction</u>	m <sup>2</sup>	131	48.40	R 6,340	2.9%	0.16
Solid floors:						
Construction surf bed 85mm with 200 fill	m <sup>2</sup>	119	53.28	R 6,340		
<u>External walls</u>	m <sup>2</sup>	157	288.42	R 45,282	20.7%	0.94
Walls:						
One brick wall	m <sup>2</sup>	133	109.15	R 14,517		
Facings	m <sup>2</sup>	141	59.20	R 8,347		
Windows:						
Standard window with burglar proofing	m <sup>2</sup>	17	610.50	R 10,379		
Extra for mosquito guage	m <sup>2</sup>	22	273.80	R 6,024		

Window sundries:							
Pelmets, etc.	m	17	51.80	R	881		
Doors:							
Steel door & frame filled in with glass panels 900x2100mm	No	1	1073.00	R	1,073		
Pressed steel door frame & f. l & b batten door	No	2	893.55	R	1,787		
Single front door & window frame	No	1	1091.50	R	1,092		
Mild steel balustrade 900mm high	No	4	296.00	R	1,184		
<u>Roofs</u>	m <sup>2</sup>	175	181.46	R	31,755	14.5%	0.59
Coverings:							
Concrete tiles	m <sup>2</sup>	175	49.95	R	8,741		
Ridging	m	25	33.30	R	832		
Valley flashing	m	5	59.20	R	296		
Insulation:							
80mm Insulation	m <sup>2</sup>	112	16.65	R	1,865		
Construction:							
Roof structure & battens	m <sup>2</sup>	175	74.00	R	12,950		
Eaves:							
15 x 150mm Fascias. etc.	m	38	62.90	R	2,390		
Eaves tile with 50 x 75mm filling piece	m	18	72.15	R	1,299		
100 x 76mm Galvanised gutter	m	38	48.10	R	1,828		
Rainwatergoods:							
76 x 76mm Galvanised downpipe	m	20	44.40	R	888		
Eaves offset, etc	No	6	111.00	R	666		
<u>Internal divisions</u>	m <sup>2</sup>	141	80.24	R	11,314	5.2%	0.26
Half brick walls	m <sup>2</sup>	129	54.58	R	7,041		
Doors:							
Pressed steel door frame & hollow core door 813 x 2032mm	No	7	610.50	R	4,274		

<u>Floor finishes</u>	m <sup>2</sup>	115	95.13	R	10,940	5.0%	0.31
Ceramic floor tiles on screed	m <sup>2</sup>	7	90.55	R	1,334		
2mm Vinyl tiles on screed	m <sup>2</sup>	94	77.70	R	7,304		
Terazzo tiles	m <sup>2</sup>	7	25.80	R	881		
Granolithic floors	m <sup>2</sup>	7	23.31	R	163		
Skirtings:							
75mm Vinyl skirtings	m	86	13.88	R	1,194		
75mm Grano skirtings	m	5	12.95	R	65		
<u>Internal finishes</u>	m <sup>2</sup>	349	45.37	R	15,835	7.2%	0.15
Finishes:							
Plaster and paint	m <sup>2</sup>	255	32.38	R	8,257		
Putty plaster & enamel paint	m <sup>2</sup>	51	44.40	R	2,264		
White glazed tiles	m <sup>2</sup>	43	99.90	R	4,296		
Sundries:							
600 x 600mm Mirror	No	2	120.25	R	241		
Toilet paper holder	No	2	64.75	R	130		
Soap dish	No	4	64.75	R	259		
Shower rail	No	1	240.50	R	241		
Towel rail 900mm	No	2	74.00	R	148		
<u>Ceilings</u>	m <sup>2</sup>	112	81.61	R	9,140	4.2%	0.27
Suspended ceilings							
Gypsum ceiling on wood	m <sup>2</sup>	78	60.13	R	4,690		
4mm Fibre board ceiling	m <sup>2</sup>	34	57.35	R	1,950		
EO ceiling for trapdoor	No	1	74.00	R	74		
Rails:							
19 x 75mm Meranti cornice	m	138	17.58	R	2,426		
<u>Fittings</u>	m <sup>2</sup>	131	110.44	R	14,467	6.6%	0.36
Built-in cupboard 2064mm high	m	8	1073.00	R	8,584		
Kitchen wall unit 500mm high	m	1.5	425.50	R	638		

Ditto but floor unit 800mm high	m	3	1202.50	R	3,608		
Kitchen sink unit	m	1.5	962.00	R	1,443		
Medicine cabinet	No	1	194.25	R	194		
<u>Sanitary installation</u>	No	9	3145.00	R	28,305	12.9%	10.24
Units	No	8	3237.50	R	25,900		
Geysers	No	1	2405.00	R	2,405		
<u>Site work</u>	m <sup>2</sup>	131	62.91	R	8,241	3.8%	0.20
Retaining walls:							
Strip foundation 450 x 220mm	m	11	63.38	R	697		
Half brick face brick wall	m <sup>2</sup>	28	129.50	R	3,626		
EO for brick pilasters	m <sup>2</sup>	0.3	601.25	R	180		
Single mild steel gate	No	1	536.50	R	537		
Stairs:							
Fill under stairs	m <sup>3</sup>	0.5	29.60	R	15		
Concrete stairs	m <sup>3</sup>	2	407.00	R	814		
Formwork sides of stairs	m <sup>2</sup>	2	64.75	R	130		
Formwork to risers	m	8	14.80	R	118		
Granolithic on stairs	m <sup>2</sup>	5	29.60	R	148		
Paving:							
85mm Mass concrete paving	m <sup>2</sup>	12	44.40	R	533		
Special items:							
PC stormwater channel 800mm long	No	6	83.25	R	500		
Washing line	No	1	481.00	R	481		
Number of house	No	1	111.00	R	111		
TV antenne	No	1	351.50	R	352		

\*Factor = Elemental rate/PWD-tariff

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR TYPICAL GARAGE

Date (price level) : 97/06

WCS 0070

Building cost-index: 2146.77

PWD-Tariff: 307.02

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
TYPICAL GARAGE (ONLY ONE)	m <sup>2</sup> 27	704.00 R	35,164	100.0%	4.24	
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		8%	R	2,605	7.4%	
		<u>Subtot</u>	R	<u>32,559</u>		
<u>Foundations</u>	m <sup>2</sup>	27	204.63 R	5,525	15.7%	0.67
Strip foundations:						
One brick foundtn 600 x 220mm	m	22	83.18 R	1,830		
Half. brick foundtn 450 x 220mm	m	2	63.38 R	127		
Foundation walls						
One brick wall	m <sup>2</sup>	23	109.15 R	2,510		
Half brick wall	m <sup>2</sup>	1	54.58 R	55		
Facings	m <sup>2</sup>	11	59.20 R	651		
Special circumstances:						
Allow for hard rock-15%	m <sup>2</sup>	27	13.04 R	352		
<u>Ground floor concrete</u>	m <sup>2</sup>	27	43.41 R	1,172	3.3%	0.14
Solid floors:						
Concrete surf bedding 85mm with 200 fill	m <sup>2</sup>	22	53.28 R	1,172		
<u>External walls</u>	m <sup>2</sup>	61	194.55 R	11,868	33.7%	0.63
Walls:						
One brick wall	m <sup>2</sup>	53	109.15 R	5,785		
Facing	m <sup>2</sup>	55	59.20 R	3,256		
Windows:						
Standard window	m <sup>2</sup>	1.5	610.50 R	916		

Doors:						
Pressed steel door frame & f. l & b batten door	No	1	893.55 R	894		
Tip-up-door 2430x2100mm	No	1	1017.50 R	1,018		
<u>Roofs</u>	<u>m<sup>2</sup></u>	<u>43</u>	<u>203.20 R</u>	<u>8,738</u>	24.8%	0.66
Coverings:						
Concrete tiles	m <sup>2</sup>	43	49.95 R	2,148		
Ridging	m	8	33.30 R	266		
Construction:						
Roof structure & battens	m <sup>2</sup>	43	74.00 R	3,182		
Eaves:						
15x150mm Fascias. etc.	m	17	62.90 R	1,069		
Eaves tile with 50 x 75mm filling piece	m	10	72.15 R	722		
100 x 76mm Galvanised gutter	m	17	48.10 R	818		
Rainwatergoods:						
76 x 76mm Galvanised downpipe	m	7	44.40 R	311		
Eaves offset, etc.	No	2	111.00 R	222		
<u>Internal divisions</u>	<u>m<sup>2</sup></u>	<u>7</u>	<u>54.58 R</u>	<u>382</u>	1.1%	0.18
Half brick walls	m <sup>2</sup>	7	54.58 R	382		
Floor finishes	m <sup>2</sup>	27	29.55 R	798	2.3%	0.10
Finishes:						
Granolithic floors	m <sup>2</sup>	22	23.31 R	513		
Skirtings:						
Granolithic skirtings	m	22	12.95 R	285		
<u>Internal finishes</u>	<u>m<sup>2</sup></u>	<u>57</u>	<u>32.38 R</u>	<u>1,846</u>	5.2%	0.11
Finishes:						
Plaster and paint	m <sup>2</sup>	57	32.38 R	1,846		

**ANNEXURE A**

<u>Ceilings</u>	m*	22	84.27	R	1,854	5.3%	0.27
Suspended ceilings:							
Gypsum ceiling on wood	m <sup>2</sup>	22	60.13	R	1,323		
EO ceiling for trapdoor	No	1	74.00	R	74		
Rails:							
19 x 75mm Meranti cornice	m	26	17.58	R	457		
<u>Site work</u>	m <sup>2</sup>	27	13.98	R	377	1.1%	0.05
Ramps:							
Concrete in ramps	m <sup>2</sup>	3	70.30	R	211		
Special items:							
PC stormwater channel 800mm long	No	2	83.25	R	167		

\*Factor = Elemental rate/PWD-tariff

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR : MAISONETTES (ONE UNIT ONLY) WCS 0070	Date (price level) : 97/06 Building cost-index: 2146.77 PWD-Tariff: 307.02
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BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
HOUSE TYPE WA2 & WA2S (ONLY ONE)	m <sup>2</sup> 2203	181.50 R	399,835	100.0%		
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		8%	R	29,617	7.4%	
		<u>Subtot</u>	R	<u>370,217</u>		
<u>Foundations</u>	m <sup>2</sup>	251	169.20 R	42,470	10.6%	0.55
Strip foundations:						
One brick foundtn 600 x 220mm	m	192	83.18 R	15,971		
Foundation walls:						
One brick wall	m <sup>2</sup>	192	109.15 R	20,957		
Facings	m <sup>2</sup>	45	59.20 R	2,664		
Special circumstances						
Allow for hard rock-15%	m <sup>2</sup>	251	11.47 R	2,879		
<u>Ground floor construction</u>	m <sup>2</sup>	251	45.64 R	11,455	2.9%	0.15
Solid floors:						
Construction surf bedding 85mm with 200 fill	m <sup>2</sup>	215	53.28 R	11,455		
<u>Structural frame</u>	m <sup>2</sup>	-	-	-		
Slabs:						
Slabs 200mm and beams	m <sup>2</sup>	-	-	-		
Columns under slabs:						
Columns under slabs 300 x 300mm	m <sup>2</sup>	-	-	-		
Walls under slabs						
Rein retaining wall 300mm	m <sup>2</sup>	-	-	-		
Stairs:						
Reinforced concrete stairs	m <sup>2</sup>	-	-	-		



Independed columns & beams:						
Independed columns	m	-	-	-		
Independed beams	m	-	-	-	-	
<u>External walls</u>	m <sup>2</sup>	260	281.56	R	73,205	18.3%
Walls:						
One brick wall	m <sup>2</sup>	210	109.15	R	22,922	
Facings	m <sup>2</sup>	210	59.20	R	12,432	
Windows:						
Standard window with burglar proofing	m <sup>2</sup>	27	610.50	R	16,484	
Extra for mosquito guage	m <sup>2</sup>	37	273.80	R	10,131	
Window sundries:						
Pelmets, etc.	m	32	51.80	R	1,658	
Doors:						
Single front door & wood frame	No	2	1091.50	R	2,183	
Pressed steel door frame & fJ & b	No	6	893.55	R	5,361	
Tip-up door 2430x2100mm	No	2	1017.50	R	2,035	
<u>Roofs</u>	m <sup>2</sup>	332	183.26	R	60,843	15.2%
Coverings:						
Concrete tiles	m <sup>2</sup>	332	49.95	R	16,583	
Ridging	m	41	33.30	R	1,365	
Valley flashing	m	21	59.20	R	1,243	
Insulation:						
80mm Insulation	m <sup>2</sup>	218	16.65	R	3,630	
Construction:						
Roof structure & battens	m <sup>2</sup>	332	74.00	R	24,568	
Eaves:						
15 x 150mm Fascias. etc.	m	64	62.90	R	4,026	
Eaves tile with 50 x 75mm filling piece	m	48	72.15	R	3,463	0.60

100 x 76mm Galvanised gutter	m	64	48.10	R	3,078		
Rainwater goods:							
76 x 76mm Galv downpipe	m	40	44.40	R	1,776		
Eaves offset, etc.	No	10	111.00	R	1,110		
<u>Internal divisions</u>	m <sup>2</sup>	249	85.75	R	21,353	5.3%	0.28
Half brick walls	m <sup>2</sup>	169	54.58	R	9,224		
One brick walls	m <sup>2</sup>	44	109.15	R	4,803		
Doors:							
Pressed steel door frame & hollow core door 813 x 2032mm	No	12	610.50	R	7,326		
<u>Floor finishes</u>	m <sup>2</sup>	214	84.60	R	18,105	4.5%	0.28
Ceramic floor tiles on screed	m <sup>2</sup>	10	190.55	R	1,906		
2mm Vinyl tiles on screed	m <sup>2</sup>	142	77.70	R	11,033		
Terazzo tiles	m <sup>2</sup>	9	125.80	R	1,132		
Granolithic floors	m <sup>2</sup>	53	23.31	R	1,235		
Skirtings:							
Granolithic skirtings	m	22	12.95	R	285		
75mm Vinyl skirtings	m	143	17.58	R	2,514		
<u>Internal finishes</u>	m <sup>2</sup>	695	39.06	R	27,145	6.8%	0.13
Finishes:							
Plaster and paint	m <sup>2</sup>	529	32.38	R	17,129		
Putty plaster & enamel paint	m <sup>2</sup>	148	44.40	R	6,571		
White glazed tiles & plaster	m <sup>2</sup>	18	99.90	R	1,798		
Sundries:							
600 x 600mm Mirror	No	2	120.25	R	241		
Toilet paper holders	No	4	64.75	R	259		
Soap dish	No	8	64.75	R	518		
Shower rail	No	2	240.50	R	481		
Towel rail	No	2	74.00	R	148		

<u>Ceilings</u>	m <sup>2</sup>	218	82.14	R	17,907	4.5%	0.27
Suspended ceilings:							
4mm Fibre board ceiling	m <sup>2</sup>	218	57.35	R	12,502		
EO ceiling for trapdoor	No	2	74.00	R	148		
Rails:							
19 x 75mm Meranti cornice	m	299	17.58	R	5,256		
<u>Fittings</u>	m <sup>2</sup>	251	103.92	R	26,085	6.5%	0.34
Built-in cupboard 2064mm high	m	13	1073.00	R	13,949		
Kitchen wall unit 500mm high	m	3	425.50	R	1,277	"	
Ditto but floor unit 800mm high	m	6	1202.50	R	7,215		
Kitchen sink unit	m	3	962.00	R	2,886		
Medicine cabinet	No	2	194.25	R	389		
Fire extinguisher	No	1	370.00	R	370		
Sanitary installation	No	18	3145.00	R	56,610	14.2%	10.24
Units	No	16	3237.50	R	51,800		
Geysers	No	2	2405.00	R	4,810		
Site works	m	251	59.92	R	15,040	3.8%	0.20
Retaining walls:							
Strip foundation 450 x 220mm	m	20	63.38	R	1,268		
Half brick face brick wall	m <sup>2</sup>	44	129.50	R	5,698		
EO for brick pilasters	m <sup>3</sup>	0.5	601.25	R	301		
Single mild steel gate	No	2	536.50	R	1,073		
Filling under stairs	m <sup>3</sup>	1	29.60	R	30		
Concrete stairs	m <sup>3</sup>	4	407.00	R	1,628		

Formwork sides of stairs	m <sup>2</sup>	4 m <sup>2</sup>	64.75 R	259		
Formwork to risers	m	16	14.80 R	237		
Granolithic on stairs	m <sup>2</sup>	10	29.60 R	296		
Paving:						
85mm Mass concrete paving	m <sup>2</sup>	25	44.40 R	1.110		
Concrete ramp	m <sup>2</sup>	6	70.30 R	422		
Special Hems:						
PC stormwater channel 800mm long	No	10	83.25 R	833		
Washing line	No	2	481.00 R	962		
Number of house	No	2	111.00 R	222		
TV antenne	No	2	351.50 R	703		

\*Factor = Elemental rate/PWD-tariff

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR : TYPICAL GARAGE

Date (price level) : 97/06

WCS 0070

Building cost-index: 2146.77

PWD-Tariff: 307.02

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
GENERAL SITE WORKS	m <sup>2</sup> 2203	214.06 R	471,565	100.0%	0.70	
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		8%	R	34,931	7.4%	
		<u>Subtot</u>		<u>R 436,634</u>		
<u>Sewerage</u>	<u>m</u>	<u>588</u>	<u>94.95 R</u>	<u>5,833</u>	11.8%	0.31
110mm Sewers	m	489	46.25 R	22,616		
160mm Sewers	m	99	83.25 R	8,242		
Connection	No	18	1387.50 R	24,975		
<u>Site preparation</u>	<u>m<sup>2</sup></u>	<u>2203</u>	<u>45.37 R</u>	<u>99,944</u>	21.2%	0.15
Clear site	m <sup>2</sup>	8700	2.78 R	24,186		
Open face excavation	m <sup>3</sup>	1800	18.50 R	33,300		
Filling over site	m <sup>3</sup>	1800	14.80 R	26,640		
Rock-5%	m <sup>3</sup>	90	175.75 R	15,818		
<u>Paving</u>	<u>m<sup>2</sup></u>	<u>920</u>	<u>74.15 R</u>	<u>68,222</u>	14.5%	0.24
100mm Concrete paving in motorway	m <sup>2</sup>	255	58.66 R	14,958		
85mm Concrete paving	m <sup>2</sup>	120	53.98 R	6,478		
60mm Interlocking paving	m <sup>3</sup>	545	70.30 R	38,314		
Brick-on-edge kerbing	m	150	40.70 R	6,105		
Expansion joint 150mm wide	m	80	29.60 R	2,368		
<u>Boundary walls</u>	<u>m<sup>2</sup></u>	<u>2203</u>	<u>43.72 R</u>	<u>96,307</u>	20.4%	0.14
1200mm High fencing	m	1320	53.65 R	70,818		
EO ditto for single gate	No	36	471.75 R	16,983		
1800mm High half brick face brick screen wall	m	22	386.65 R	8,506		

**ANNEXURE A**

<u>Special items</u>	m <sup>2</sup>	2203	29.22	R	64,380	13.7%	0.10
Remove surface soil	m <sup>2</sup>	8700	1.85	R	16,095		
Surface soil	m <sup>2</sup>	8700	5.55	R	48,285		
<u>Water reticulation</u>	m	480	108.23	R	51,948	11.0%	0.35
25mm Water supply	m	480	38.85	R	18,648		
25mm Water connection and gauge	No	24	1387.50	R	33,300		

\*Factor = Elemental rate/PWD-tariff

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR : HOUSING. ETC

Date (price level) : 97/06  
Building cost-index: 2146.77  
PWD-Tariff: 307.02

WCS 0070

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
Specialist services	m <sup>2</sup> 2203	343.18 R	756.016	100.0%	1.10	
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		8%	R 56,001	7.4%		
	Subtot		R 700,015			
<u>Electrical installation</u>	m <sup>2</sup> 2203	198.39 R	437,063	57.8%	0.62	
Provisional sum Item			R 416,250			
Attendance & profit		5%	416250 R 20,813			
<u>Airconditioning</u>	m <sup>2</sup> 2203	8.82 R	19,425	2.6%	0.03	
Provisional sum	Item		R 8,500			
Attendance & profit		5%	18500 R 925			
<u>Fire detection</u>	m <sup>2</sup> 2203	35.27 R	77,700	10.3%	0.11	
Provisional sum	Item		R 74,000			
Attendance & profit		5%	74000 R 3,700			
<u>Security</u>	m <sup>2</sup> 2203	70.54	155,400	20.6%	0.2	
Electrical work	Item		R 74,000			
Mechanical work	Item		R 37,000			
Building work	Item		R 37,000			
Attendance & profit		5%	148000 R 7,400			
<u>Training</u>	m <sup>2</sup> 2203	4.73 R	10,427	1.4%	0.14	

\*Factor = Elemental rate/PWD-tariff

**EXAMPLE OF ELEMENTAL ESTIMATE  
AND RATES ANALYSIS FOR A  
REPAIR AND RENOVATION PROJECT**



## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BOSFONTEIN : MAGISTRATE'S COURT  
REPAIRS AND RENOVATIONS  
WCS 5000

Date (price level) : 97/06  
Building cost-index:  
PWD-Tariff:

SUMMARY					
SECTION	Gross area	Rate	Amount	%	Factor*
Preliminaries	8.99%		R 133,653	8.1%	
Renovations: Building	m <sup>2</sup> 3086	369.02	R 1,138,796	69.3%	
<u>Site works</u>	m <sup>2</sup> 3086	18.33	R 56,564	3.4%	
Reduce existing manholes	Item		R 925		
Check existing sewerage system and clean	Item		R 2,128		
Clean storm water pipe	m 14	11.11	R 156		
Stormwater drainage	m 47	107.30	R 5,043		
Manholes, etc.	No 2	833.05	R 1,666		
Repair cracks in motorway	m 10	8.14	R 81		
Tar surface	m <sup>2</sup> 710	49.95	R 35,465		
Kerbstones	m 181	55.50	R 10,046		
Change vehicle entrance	Item		R 1,055		
<u>Specialist services</u>	m <sup>2</sup> 3086	94.40	291,330	17.7%	
<u>Electrical installation</u>	m <sup>2</sup> 3086	53.63	165,515		
Provisional amount	m <sup>2</sup> 3086	51.08	R 157,633		
Attendance & profit	5.00%		R 7,882		
<u>Lightning protection</u>	m <sup>2</sup> 3086	6.29	19,409		
Provisional amount	m <sup>2</sup> 3086	5.99	R 18,485		
Attendance & profit	5.00%		R 924		
<u>Moving of air conditioning units</u>	m <sup>2</sup> 3086	4.50	13,887		
Provisional amount	m <sup>2</sup> 3086	4.20	R 12,961		
Attendance & profit	7.14%		R 925		

## EXAMPLE

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BALFOUR : HOUSING. ETC

Date (price level) : 97/06  
Building cost-index: 2146.77  
PWD-Tariff: 307.02

WCS 0070

<u>Burglar alarm system</u>	m <sup>2</sup>	3086	10.80	R	<u>33,330</u>		
Provisional amount	m <sup>2</sup>	3086	10.29	R	31,755		
Attendance & profit		4.96%		R	1,575		
<u>Sundry security</u>	m <sup>2</sup>	3086	19.18	R	<u>59,189</u>		
Provisional amount for fencing	m <sup>2</sup>	3086	7.20	R	22,219		
Provisional amount for guardhut and boom	m <sup>2</sup>	3086	5.99	R	18,485		
Provisional amount for security gates, locks, etc at entrance doors, etc	m <sup>2</sup>	3086	5.99	R	18,485		
SUB TOTAL A	m <sup>2</sup>	3086	525.06	R	1,620,343	98.6%	
TRAINING**		1.4%		R	22,685	1.4%	
SUBTOTAL B	m <sup>2</sup>	3086	532.41	R	1,643,028	100.0%	
VAT	m <sup>2</sup>	3086	74.54	R	230,024	14.0%	
TOTAL	m <sup>2</sup>	3086	606.95	R	1,873,052	114.0%	

\*Factor = Elemental rate/PWD-tariff

\*\*Training = Training for 6 months and more contracts

## EXAMPLE OF A REPAIR AND RENOVATION PROJECT

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BOSFONTEIN : MAGISTRATE'S COURT REPAIRS AND RENOVATIONS WCS 5000	Date (price level) : Building cost-index: PWD-Tariff:	97/06
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BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
BUILDINGS	m	3086	408.39 R	1,260,287	100.0%	1.40
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		9%		R 104,060	8.3%	
		<u>Subtot</u>		R 1,156,227		
<u>External walls</u>				R 216,640	17.2%	
Walls:						
Allow for breaking out. etc for replacement, etc and repair of new cell entrance	Item			R 5,041		
Repair existing face brick retaining wall	m <sup>2</sup>	8	101.75 R	814		
One brick wall in gables, etc including finishes	m <sup>2</sup>	8	236.80 R	1,894		
One brick wall externally as entrance To cell blocks including foundation and finishes, average 4m high	m	14	1104.45 R	15,462		
External finishes:						
Repair cracks, etc	m	140	11.10 R	1,554		
Hack off loose plaster, replaster and paint	m <sup>2</sup>	240	31.45 R	7,548		
Repaint external plastered walls	m <sup>2</sup>	1885	14.80 R	27,898		
Clean face brickwork	m <sup>2</sup>	709	9.25 R	6,558		
Rake out joints and repair	m	120	9.25 R	1,110		
Rake out existing joints in concrete apron and reseal	m	572	22.20 R	12,698		
Replace brick coping with cast concrete coping	m <sup>2</sup>	415	64.75 R	26,871		
Paint steel hand railings	m <sup>2</sup>	102	15.73 R	1,604		
Clean concr./f.rick panels on 1st level	m <sup>2</sup>	80	27.75 R	2,220		

Fill small holes in face brickwork to match	No	10	9.25	R	93		
Repair earthing at North East corner	Item			R	555		
Windows:							
Replace existing putty in windows	m	1150	3.70	R	4,255		
Repair opening between window frame & wall	m	2	46.25	R	93		
Replace broken glass in windows	m <sup>2</sup>	30	111.00	R	3,330		
Remove rust and repaint steel windows (bsm)	m <sup>2</sup>	892	15.73	R	14,031		
Provide burglar proofing to windows	m <sup>2</sup>	167	148.00	R	24,716		
Remove existing steel pelmets and repair wall	m	72	5.55	R	400		
Remove existing blinds and repair wall	No	71	5.55	R	394		
Provide blinds to windows that was without	No	90	277.50	R	24,975		
Provide casement hooks where necessary	No	25	74.00	R	1,850		
Provide window catch where necessary	No	5	37.00	R	185		
Inspect all windows for proper closing and adjust	Item			R	3,700		
Doors:							
External walls Cleaning, etc of copper doors	m <sup>2</sup>	50	18.50	R	925		
Check entrance doors, etc and repair	Item			R	925		
Paint steel gates	m <sup>2</sup>	26	15.73	R	409		
Replace timber door	No	3	1295.00	R	3,885		
Replace double timber door	No	4	2127.50	R	8,510		
Repair timber door frame	No	2	55.50	R	111		
Provide new entrance door to cells in basement	No	1	4625.00	R	4,625		

Allowance for sundry repair work. Etc	Item			R	7,400		
<u>Roofs</u>				R	478,971	38.0%	
Repairs/replace waterproofing on roofs	m <sup>2</sup>	265	120.25	R	31,866		
Remove existing iron roofs	m <sup>2</sup>	2008	13.88	R	27,871		
New Brownbuilt roof covering, including gutters, etc	m <sup>2</sup>	2008	109.15	R	219,173		
Replace/check timber roof construction	m»	1355	120.25	R	162,939		
Eaves:							
Replace/repair/paint existing fascias	m	178	44.40	R	7,903		
Rainwater gutters	m	177	66.60	R	11,788		
Rainwater downpipe	m	166	72.15	R	11,977		
Eaves covering, paint, etc.	m <sup>2</sup>	67	81.40	R	5,454		
<u>Internal partitions</u>				R	43,230	3.4%	
Walls:							
Allow for the repair of walls, plaster. Etc where damp appears	Item			R	3,700		
Take out and remove existing partitions and repair	No	1	462.50	R	463		
Refix loose partition property	No	1	462.50	R	463		
Doors:							
Repaint/vamish all doors and fanlights	m <sup>2</sup>	737	12.95	R	9,544		
Doorstops	No	90	7.40	R	666		
Door closer	No	24	462.50	R	11,100		
Service and repair door locks	No	91	37.00	R	3,367		
Lock mechanism for doors and fanlights	No	74	55.50	R	4,107		
Replace door locks	No	5	148.00	R	740		
Barrel locks	No	2	48.10	R	96		
Refise doors, door frames, etc	No	4	74.00	R	296		

Replace fan-light opener	No	1	92.50	R	93	8.9%
Take out and remove door and fanlight and blind up opening	No	4	925.00	R	3,700	
Replace door handles	No	3	46.25	R	139	
Paint steel gates	m <sup>2</sup>	4	12.30	R	49	
Service barrel bolts	No	5	9.25	R	46	
Replace doors, etc	No	2	740.00	R	1,460	
Hand railings:						
Paint hand railings	m <sup>2</sup>	90	14.80	R	1,332	
Repair hand railings	Item			R	1,650	
<u>Floor finishes</u>				R	111,740	
Provide new concrete stairs and finishes for entrance to cells	m <sup>2</sup>	9	925.00	R	8,325	
Provide new concrete ramp and finishes including excavations, form-work, etc	m <sup>2</sup>	3	555.00	R	1,665	
Replace/provide new paving including excavations, fillings, etc	m <sup>2</sup>	440	81.40	R	35,816	
Replace floor tiles in repair work	m <sup>2</sup>	6	92.50	R	555	
Repair concrete block paving	m <sup>2</sup>	15	74.00	R	1,110	
Replace existing QT ramp with grano	m <sup>2</sup>	12	22.20	R	266	
Replace broken VAT on floors in repair work	m <sup>2</sup>	15	83.25	R	1,249	
Remove woodblock floor and prepare Black granolithic to match	m <sup>2</sup>	42	13.88	R	583	
Repair cracks in floor	m	55	18.50	R	1,018	
Sand wood floor and polish	m <sup>2</sup>	40	64.75	R	2,590	
Repair grano floor and VAT	m <sup>2</sup>	120	77.70	R	9,324	
Remove and replace stair finishing	m <sup>2</sup>	47	111.00	R	5,217	
Replace existing coir mats	No	2	555.00	R	1,110	
Repair/Replace door threshold	m	59	37.00	R	2,183	

Repair hole in floor new cover and frame, etc	No	1	138.75	R	139		
Skirtings, etc:							
Remove all steel and wood skirtings and prepare	m	1321	9.25	R	12,219		
Replace existing skirtings, including varnish	m	1321	20.35	R	26,882		
New skirtings with quadrant	m	5	27.75	R	139		
Supply new quadrants	m	40	4.63	R	185		
<u>Internal finishes</u>				R	100,967	8.0%	
Finishes:							
Clean existing face brickwork	m <sup>2</sup>	395	9.25	R	3,654		
Repaint existing painted walls, etc	m <sup>2</sup>	4784	14.80	R	70,803		
Repair cracks, etc in walls, etc	m	184	9.25	R	1,702		
Cut V-grooves where necessary	m	27	9.25	R	250		
Repair existing loose plaster, etc	m <sup>2</sup>	190	35.15	R	6,679		
Repair existing white glazed tiles against walls, etc	m <sup>2</sup>	55	111.00	R	6,105		
Supply cover strips against walls	m	30	62.90	R	1,887		
Allow for sundry internal work	Item			R	9,888		
<u>Ceilings</u>				R	68,463	5.4%	
Slab finishes:							
Supply new concrete slab and finishes to cells	m <sup>2</sup>	9	370.00	R	3,330		
Repaint existing concrete ceilings	m <sup>2</sup>	2650	13.88	R	36,782		
Suspended ceilings							
Repaint existing soft board/timber ceiling	m <sup>2</sup>	553	14.80	R	8,184		
Allow for repair of damaged ceilings	Item			R	3,552		
Replace existing ceilings and paint	m <sup>2</sup>	110	85.10	R	9,361		
Replace/supply trap doors	No	3	138.75	R	416		

Strips:							
Remove picture rails and repair plaster	m	1232	5.55	R	6,838		
<u>Fittings</u>				R	84,035	6.7%	
Supply/replace notice boards	m <sup>2</sup>	60	120.25	R	7,215		
Paint/varnish wood finishes, etc	m <sup>2</sup>	494	13.88	R	6,857		
Paint steel doors, etc	m <sup>2</sup>	6	13.88	R	83		
Paint steel bearers, etc	m	16	3.24	R	52		
Paint water heaters, etc	m <sup>2</sup>	52	18.50	R	962		
New reception counter, etc	m	24	1757.50	R	42,180		
Take out and remove existing counters	Item			R	1,110		
Supply new shelving, etc	m	25	296.00	R	7,400		
Allow for complete fitting for kitchen (E18)	Item			R	12,580		
Provide door numbers	No	171	9.25	R	1,582		
Provide indicator boards	No	28	74.00	R	2,072		
Remove existing indicator boards	No	15	18.50	R	278		
Provide doth hooks	No	30	55.50	R	1,665		
<u>Plumber</u>				R	34,800	2.8%	
Paint existing pipe work	m	380	8.33	R	3,165		
Replace all WC and HWB fittings	No	24	925.00	R	22,200		
Allow for repair, examine and replacement of drainage system	Item			R	9,250		
Join loose pipes	No	1	185.00	R	185		
<u>Training</u>		1.4%		R	17,379	1.4%	0.14

\*Factor = Elemental rate/PWD-tariff



## EXAMPLE OF A REPAIR AND RENOVATION PROJECT

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BOSFONTEIN : MAGISTRATE'S COURT  
REPAIRS AND RENOVATIONS  
WCS 5000

Date (price level) : 97/06  
Building cost-index:  
PWD-Tariff:

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
SITE WORKS	m <sup>2</sup> 3086	19.98	R 61,666	100.0%	1.40	
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		9%		R 5,092	8.3%	
		<u>Subtot</u>		R 56,574		
Drainage				R 3,053	5.0%	
Reduce existing manholes	Item			R 925		
Examine existing drainage system and clean	Item			R 2,128		
<u>Special items</u>				R 6,875	11.1%	
Clean stormwater drains	m	14	11.10	R 155		
Stormwater drains	m	47	107.30	R 5,043		
Manholes, etc	No	2	838.05	R 1,676		
<u>Paving, etc</u>				R 46,646	75.6%	
Repair cracks in motorway	m	10	8.14	R 81		
Tar surface	m	710	49.95	R 35,465		
Kerbstones	m	181	55.50	R 10,046		
Change vehicle entrance	Item			R 1,055		

\*Factor = Elemental rate/PWD-tariff

## EXAMPLE OF A REPAIR AND RENOVATION PROJECT

## DEPARTMENT OF PUBLIC WORKS : ELEMENTAL ESTIMATE

PROJECT : BOSFONTEIN : MAGISTRATE'S COURT  
REPAIRS AND RENOVATIONS  
WCS 5000

Date (price level) : 97/06  
Building cost-index:  
PWD-Tariff:

BUILDING/ELEMENT/COMPONENT	Gross area	Rate	Amount	%	Factor*	
Specialist service	m <sup>2</sup> 3086	102.84	R 317.359	100.0%	0.36	
Description	Unit	Quant	Rate	Amount	%	Factor*
Preliminaries		8.94%		R 26.044	8.2%	
	Subtot			R 291,3153		
<u>Electrical installation</u>				R 165.501	52.1%	
Provisional amount	Item			R 157.620		
Attendance and profit	%		5.00	R 7.881		
<u>Lightning protection</u>				R 19.425	6.1%	
Provisional amount	Item			R 18.500		
Attendance and profit	%		5.00	R 925		
<u>Moving of air conditioning units</u>				13.875	4.4%	
Provisional amount	Item			R 12.950		
Attendance and profit	%		7.00	R 925		
<u>Burglar alarm system</u>				33,314	10.5%	
Provisional amount	Item			R 31.728		
Attendance and profit	%		5.00	R 1.586		
<u>Sundry security</u>				59.200	18.7%	
Provisional amount for fencing	Item			R 22,200		
Provisional amount for guardhut and boom.	Item			R 18.500		
Provisional amount for security gates.						
Locks, etc at entrance gates etc	Item			R 18,500		

\*Factor = Elemental rate/PWD-tariff

DEPARTMENT OF PUBLIC WORKS : RATES ANALYSIS

Contract number .... WCS.....	Document.....
Project.....	Date.....
Preliminaries	.....% R .....
Buildings	.....% R .....
Electrical work	.....% R .....
Mechanical work	.....% R .....
Security	.....% R .....
External works	.....% R .....
Training	.....% R .....
Subtotal	.....% R .....
VAT	.....% R .....
Total	.....% R .....

BUILDING WORK	QUANT	RATE	AMOUNT
1 Excavate for trenches	76 R	.....	R .....
2 Concrete strip foundtn	15 R	.....	R .....
3 Reinf cone in slabs	23 R	.....	R .....
4 Formwork to slabs	93 R	.....	R .....
5 Reinforcement (Kg)	906 R	.....	R .....
6 Half brick wall	84 R	.....	R .....
7 One brick wall	84 R	.....	R .....
8 Hollow wall	84 R	.....	R .....
9 Face brickwork	84 R	.....	R .....
10 Profile or tile roofing	279 R	.....	R .....
11 38x114mm roof timbers.	305 R	.....	R .....
12 Gypsum ceilings only	186 R	.....	R .....
13 44mm semi-solid door	10 R	.....	R .....
14 Vinyl tile floors	84 R	.....	R .....
15 Four lever lock	10 R	.....	R .....
16 Steel door frame	10 R	.....	R .....
17 Steel window/m2.	9 R	.....	R .....
18 25mm screed.	42 R	.....	R .....
19 Internal plaster	334 R	.....	R .....
20 White glazed tiles	8 R	.....	R .....
21 3mm glass	9 R	.....	R .....
22 PVA plastered walls	334 R	.....	R .....
INDEX (Amnt (A) ^ R5105.62 x 100) =	R.....(C)	(A) R	.....
+ 14 % VAT Added to (C) and (A)	R.....(D)	(B) R	.....
RATE (Amnt (A) ^ 357m <sup>2</sup> ) =	R.....(E)	+5% Prelim	R.....
+ 14 % VAT Added to (E)	R.....(F)	--5% Prelim	R.....

SANITARY FITTINGS	QUANT	RATE	AMOUNT
23 WC-suite.....	1 R	.....	R .....
24 Wash hand basin....	1 R	.....	R .....
25 Stainless steel sink...	1 R	.....	R .....
26 20mm Galv. steel pipe..	2 R	.....	R .....
27 100mm Cast iron pipe..	5 R	.....	R .....

**ANNEXURE A**

28 100mm Vitreous pipe..  
 INDEX (Amnt (G)^R164.20x 100)  
 +14 % VAT Added

4 R

..... R .....  
 = R..... (I) RATE  
 R..... (J) (H)

(G) R .....  
 R .....

REINFORCED STRUCTURE

29 Reinforced concrete....  
 30 Formwork for slab.....  
 31 Reinforcement (Kg)....

QUANT  
 1 R  
 8 R  
 130 R

RATE  
 .....  
 .....  
 .....

AMOUNT  
 R .....  
 R .....  
 R .....

INDEX (Amnt (K) ^ R71.70 x 100) =  
 +14 % VAT Added

R.....(M) RATE  
 R.....(N)

(K) R.....  
 (L) R.....

**COST NORM RECONCILIATION  
STATEMENTS**

## COST NORM RECONCILIATION STATEMENT

PROJECT NAME: EXAMPLE OFFICE BUILDING FILE NO : 5/54880/1  
REFER. NO: WCS 001010

COST NORM RECONCILIATION STATEMENT AT: 97/06 SCU X RATE  
-AT DATE-  
OF OF

A. STANDARD COST UNITS:	APPROVED	ESTIMATE R	APPROVAL R
a) Building Development	12435.71 SCU	R51,265,555.40	R42,303,576.83
b) Site Development	594.11 SCU	R 2,449.186.99	R 2,021,032.82
c) Security	<u>108.13</u> SCU	<u>R 445,760.19</u>	<u>R 367,834.71</u>
TOTAL	<u>13137.95</u> SCU	<u>R54.160,502.58</u>	<u>R44,692,444.36</u>

## B. RAND VALUE OF AN SCU:

Value of Standard cost unit (SCU): R1,008.32 P0153

SCU base index and date: 65.1 85/11

Index at date of approval: 557.0 95/04

Index projected to date of estimate: 675.0 97/06

## COST NORM RECONCILIATION STATEMENT CONTINUED

## C. SUMMARY OF ALLOCATION OF SCU'S

STANDARD COST UNITS:	APPROVED SCU	ADJUSTED SCU	FOR USE SCU
a) Building Development	12435.71	2601.95	9833.76
b) Site Development	594.11	-124.31	469.80
c) Security	108.13	-20.48	87.65
d) Professional fees	0.00	1397.65	1397.65
e) Abnormal ground conditions	0.00	257.59	257.59
f) Reserve funds	0.00	532.44	532.44
g) Reserve fund (departmental)	0.00	559.06	559.06
TOTAL	<u>13137.95</u> =====	<u>0.00</u> =====	<u>13137.95</u> =====

## ANNEXURE B

## D. RECONCILIATION STATEMENT: Building development

COST NOR ELEMENT	NORM COST a	CROSS FUN- DING b	REVISED NORM COST c=a+b	ESTIMATED COST d	RESERVE FUNDS e=c-d	% OF CATEGORY e/cx100	% OF NORM
1. Building development	R40,539,154.43	R0.00	R40,539,154.43	R25,340,000.00	R15,199,154.43	37.49	49.43
2. Abnormal Ground Conditions	R1,013,462.37	R0.00	R1,013,462.37	R568,000.00	R445,462.37	43.95	1.11
3. TOTAL	R41,552,616.80	R0.00	R41,552,616.80	R25,908,000.00	R15,664,616.80	37.65	
4. Reserve Fund	R2,077,630.84	R0.00	R2,077,630.84	R1,295,400.00	R782,230.84	37.65	2.53
5. Reserve Fund (Departmental)	R2,181,516.50	R0.00	R2,181,516.50	R1,295,400.00	R886,116.50	40.62	2.53
6. TOTAL	R45,811,764.14	R0.00	R45,811,764.14	R28,498,800.00	R17,312,964.14	37.79	
7. Professional fees	R5,453,791.26	R0.00	R5,453,791.26	R3,562,350.00	R1,891,441.26	34.68	6.95
8. Surplus Funds	R0.00	R0.00	R0.00	R0.00	R0.00	0.00	0.00
9. TOTAL	R51,265,55.40	R0.00	R51,265,555.40	R32,061,150.00	R19,204,405.40	37.46	62.54

We hereby certify that the project as designed complies with the approved cost limits\*\* subject to the conditions of appointment in respect of space and cost norms

.....  
PROJECT ARCHITECT

.....  
DATE

\*\*Each cost limit is to be reconciled separately



## E. RECONCILIATION STATEMENT: Land Development

COST NOR ELEMENT	NORM COST a	CROSS FUN- DING b	REVISED NORM COST c=a+b	ESTIMATED COST D	RESERVE FUNDS e=c-d	% OF CATEGORY e/cX100	% OF NORM
1. Site development	R1.936.725.60	R0.00	R1.936.725.60	R1.138.000.00	R798.725.60	41.24	46.46
2. Abnormal Ground Conditions	R48.438.76	R0.00	R48.438.76	R0.00	R48.438.76	100.00	0.00
3. TOTAL	R1.985.164.36	R0.00	R1.985.164.36	R1,138.000.00	R847.164.36	42.67	
4. Reserve Fund	R99.268.52	R0.00	R99.268.52	R56.900.00	R42.368.52	42.68	2.32
5. Reserve Fund (Departmental)	R104.215.46	R0.00	R104.215.46	R56.900.00	R47.315.46	45.40	2.32
6. TOTAL	R2.188.648.34	R0.00	R2.188.648.34	R1.251.800.00	R936.848.34	42.80	
7. Professional fees	R260.538.65	R0.00	R260.538.65	R156.475.00	R104.063.65	39.94	6.39
8. Surplus funds	R0.00	R0.00	R0.00	R0.00	R0.00	0.00	0.00
9. TOTAL	R2.449.186.99	R0.00	R2.449.186.99	R1.408.275.00	R1.040.911.99	42.50	57.50

We hereby certify that the project as designed complies with the approved cost limits\*\* subject to the conditions of appointment in respect of space and cost norms

.....  
PROJECT ARCHITECT

.....  
DATE

\*\*Each cost limit is to be reconciled separately

## F. RECONCILIATION STATEMENT: Security

COST NOR ELEMENT	NORM COST a	CROSS FUN- DING b	REVISED NORM COST c=a+b	ESTIMATED COST d	RESERVE FUNDS e=c-d	% OF CATEGORY e/cx100	% OF NORM
1. Security	R361,332.48	R0.00	R361.332.48	R223.620.00	R137.712.48	38.11	50.17
2. Abnormal Ground Conditions	R0.00	R0.00	R0.00	R0.00	R0.00	0.00	0.00
3. TOTAL	R361.332.48	R0.00	R361.332.48	R223.620.00	R137.712.48	38.11	
4. Reserve Fund	R18.056.31	R0.00	R18.056.31	R11.181.00	R6.875.31	38.08	2.51
5. Reserve Fund (Departmental)	R18.963.26	R0.00	R18.963.26	R11,181.00	R7.782.26	41.04	2.51
6. TOTAL	R398.352.05	R0.00	R398.352.05	R245.982.00	R152,370.05	38.25	
7. Professional fees	R47.408.14	R0.00	R47.408.14	R30.747.75	R16.660.39	35.14	6.90
8. Surplus funds	R0.00	R0.00	R0.00	R0.00	R0.00	0.00	0.00
9. TOTAL	R445.760.19	R0.00	R445.760.19	R276.729.75	R169.030.44	37.92	62.08

We hereby certify that the project as designed complies with the approved cost limits\*\* subject to the conditions of appointment in respect of space and cost norms

.....  
PROJECT ARCHITECT

.....  
DATE

\*\*Each cost limit is to be reconciled separately

## G. RECONCILIATION: SUMMARY

COST NOR ELEMENT	NORM COST a	CROSS FUN- DING b	REVISED NORM COST c=a+b	ESTIMATED COST D	RESERVE FUNDS e=c-d	% OF CATEGORY e/cx100	% OF NORM
1. Building Development	R40.539.154.43	R0.00	R40.539.154.43	R25.340.000.00	R15.199,154.43	37.49	46.79
2. Land development	R1.936.725.60	R0.00	R1.936.725.60	R1.138,000.00	R798.725.60	41.24	2.10
3. Security	R361.332.48	R0.00	R361.332.48	R223.620.00	R137.712.48	38.11	0.41
4. Abnormal Ground Conditions	R1.061.901.13	R0.00	R1.061.901.13	R568.000.00	R493.901.13	46.51	1.05
5. TOTAL	R43.899.113.64	R0.00	R43.899.113.64	R27.269.620.00	R16.629.493.64	37.88	
6. Reserve Fund	R2.194.955.67	R0.00	R2.194.955.67	R1.363.481.00	R831.474.67	37.88	2.52
7. Reserve Fund (Departmental)	R2.304.695.22	R0.00	R2.304.695.22	R1,363.481.00	R941,214.22	40.84	2.52
8. TOTAL	R48.398.764.53	R0.00	R48.398.764.53	R29.996,582.00	R18.402.182.53	38.02	
9. Professional fees	R5.761.738.05	R0.00	R5.761.738.05	R3.749.572.75	R2.012.165.30	34.92	6.92
10. Surplus funds	R0.00	R0.00	R0.00	R0.00	R0.00	0.00	0.00
11. TOTAL	R54,160.502.58	R0.00	R54.160.502.58	R33.746.154.75	R20.414.347.83	37.69	62.31

We hereby certify that the project as designed complies with the approved cost limits\*\* subject to the conditions of appointment in respect of space and cost norms

.....  
PROJECT ARCHITECT

.....  
DATE

\*\*Each cost limit is to be reconciled separately

## THE CURRENT PLANNING VALUE OF THE ALLOTTED COST NORM

PROJECT NAME: EXAMPLE OFFICE BUILDING PROJECT NO: 5/54880/1  
WCS 001010

## CALCULATION OF THE CURRENT PLANNING VALUE OF THE ALLOCATED COST NORM

A. BUILDING DEVELOPMENT COST	SCU	R
Allocated cost norm	12435.71	R 51,265.555.40
Less:		
1. Allowance for Professional Fees		
$12.50\% \times 12435.71 / 117.5 = 1322.95$		R5.453.791.26
2. Allowance for reserve fund, departmental		
$5.00\% \times 12435.71 / 117.5 = 529.18$	<u>1852.13</u>	<u>R2.181.516.50</u>
	10583.58	R43.630.247.64
3. Allowance for reserve fund		
$5.00\% \times 10583.58 / 105.0 =$	<u>503.98</u>	<u>R2.077.630.84</u>
	10079.60	R41.552.616.80
4. Allowance for abnormal ground conditions		
$2.50\% \times 10079.60 / 102.5 =$	<u>245.84</u>	<u>R1.013.462.37</u>
Planning cost units	9833.76	R40.539.154.43
5. Value of a cost unit at base month		
85/11 - P0153 @@	X	<u>R1.008.32</u>
	R27 606 211,20	R9.915.576.88
		=====
Value:	Date:	
Index: 165.10	85/11	
6. Projected index adjustment at date of estimate: 97/06	:	675.0
R9.915.576.88 x 675.0/165.1 =		<u>R40.539.154.43 **</u>
		=====

@@ CSS P0153 prescribed for new projects

\*\*Planning cost limit at date of estimate

## ANNEXURE B

B. SITE DEVELOPMENT COST	SCU	R
Allotted cost norm	594.11	R2.449,186.99
Less:		
1. Allowance for Professional Fees		
$12.50 \% \times 594.11 / 117.5 = 63.20$		R260,538.65
2. Allowance for reserve fund, departmental		
$5.00 \% \times 594.11 / 117.5 = 25.28$	<u>88.48</u> 505.63	<u>R104,215.46</u> R2.084.432.88
3. Allowance for reserve fund		
$5.00 \% \times 505.63 / 105.0 =$	<u>24.08</u> 481.55	<u>R99,268.52</u> R1.985.164.36
4. Allowance for abnormal ground conditions		
$2.50 \% \times 481.55 / 102.5 =$	<u>11.75</u> 469.80	<u>R48,438.76</u> R1.936,725.60 =====
5. Value of a cost unit at base month		
85/11 - P0153 @@	R27 606 21120	x <u>R1,008.32</u> R473.708.74 =====
Index: Value: 165.10 Date: 85/11		
6. Projected index adjustment at date of estimate: 97/06	: 675.0	
$R473.708.74 \times 675.0/165.1 =$		<u>R1,936,725.60 ##</u> =====

@@ CSS P0153 prescribed for new projects  
 ##Planning cost limit at date of estimate

C. SECURITY	CU	R
Allotted cost norm	108.13	R445,760.19
Less:		
1. Allowance for Professional Fees		
$12.50 \% \times 108.13 / 117.5 =$	11.50	
2. Allowance for reserve fund, departmental		
$5.00 \% \times 108.13 / 117.5 =$	4.60	
	<u>16.10</u>	<u>R66,371.40</u>
	92.03	R379,388.79
3. Allowance for reserve fund		
$5.00 \% \times 92.03 / 105.0 =$	4.38	R18,056.31
Planning cost units	<u>87.65</u>	<u>R361,332.48</u>
		=====
4. Value of a cost unit at base month		
85/11-P0153@@	R27 606 211,20	
	x <u>R1,008.32</u>	
	R88,379.25	
	=====	
Index: Value: 165.10	Date: 85/11	
5. Projected index adjustment at date of estimate: 97/06	: 675.0	
$R88,379.25 \times 675.0 / 165.1 =$	R361,332.48 ##	

@@ CSS P0153 prescribed for new projects  
 ##Planning cost limit at date of estimate

## SUMMARY OF ELEMENTAL ESTIMATES FOR NORM PURPOSES

PROJECT NAME: EXAMPLE OFFICE BUILDING REF. NO: 5/54880/1  
WCS 001010  
Sketch plan

PROJECT ESTIMATED COST AT: 97/06 STAGE:

BUILDING ELEMENT	Buildings	Security	Site devmnt	Total	%
1 BUILDING DEVELOPMENT COST	ASM: 11834.00 GSM: 17838.00	0.00 0.00	.... .....	11834.00 17838.00	
A00 PRELIMINARIES**	R1,543,347.59	R0.00		R1,543,347.59	
B00 SUB-STRUCTURE	R821,955.79	R0.00		R821,955.79	
C00 GROUND FLOOR CONSTRUCTION	R318,130.85	R0.00		R318,130.85	
D00 STRUCTURAL FRAME	R6,015,981.33	R0.00		R6,015,981.33	
E00 EXTERNAL WALLS	R2,482,515.31	R0.00		R2,482,515.31	
F00 ROOFS	R436,317.53	R0.00		R436,317.53	
G00 INTERNAL DIVISION	R1,424,077.01	R0.00		R1,424,077.01	
H00 FLOOR COVERINGS	R1,299,679.40	R0.00		R1,299,679.40	
I00 INTERNAL FINISHES	R904,047.71	R0.00		R904,047.71	
J00 CEILINGS	R665,105.10	R0.00		R665,105.10	
K00 FITTINGS	R549,732.38	R0.00		R549,732.38	
L00 SANITARY INSTALLATION	R529,110.00	R0.00		R529,110.00	
SUB-TOTAL (1)	R16,990,000.00	R0.00		R16,990,000.00	
AAO ELECTRICAL INSTALLATION	R3,435,192.07	R0.00		R3,435,192.07	
ABO FIRE SERVICES	R1,469,268.90	R0.00		R1,469,268.90	
ACO AIR CONDITIONING	R2,141,821.56	R0.00		R2,141,821.56	
ADO LIFTS	R1,014,002.48	R0.00		R1,014,002.48	
AEO VACUUM CLEANING**kitchen	R289,714.99	R0.00		R289,714.99	
SUB-TOTAL (2)	R8,350,000.00	R0.00		R8,350,000.00	
BUILDING DEVELOPMENT TOTAL (1)	R25,340,000.00	R0.00		R25,340,000.00	
RATE/ASM:	R2,141.29	R0.00		R2,141.29	
RATE / GROSS m2	R1,420.56	R0.00		R1,420.56	

\*\*Can be included in individual amounts

## SUMMARY OF ELEMENTAL ESTIMATES FOR NORM PURPOSES (CONTINUED)

BUILDING ELEMENT	Buildings	Security Site devmnt	Total	%
<b>2 SITE DEVELOPMENT COST</b>				
<b>2.1 SITE WORKS</b>				
W00 SITE PREPARATION	R0.00	R0.00	R4,800.00	R4,800.00
W01 FOOT PATHS (NO ROOFS)	R0.00	R0.00	R0.00	R0.00
W02 FENCING	R0.00	R0.00	R20,000.00	R20,000.00
X00 ROADS AND OPEN PARKING	R0.00	R0.00	R252,356.75	252,356.75
Y00 SPORT AND PARADE GROUND	R0.00	R0.00	R0.00	R0.00
<b>2.2 SITE SERVICES</b>				
T00 SEWERAGE	R0.00	R0.00	R44,049.45	R44,049.45
U00 STORMWATER DRAINAGE	R0.00	R0.00	R91,251.45	R91,251.45
Y00 WATER SUPPLY	R0.00	R0.00	R36,512.00	R36,512.00
Z00 ELECTRICAL RETICULATION	R0.00	R0.00	R360,000.00	RB60.00
000 SUNDRIES	R0.00	R0.00	R260,000.00	R260,000.00
<b>2.3 LANDSCAPING</b>				
	<b>R0.00</b>	R0.00	R0.00	R0.00
<b>2.4 PRELIMINARIES^</b>				
	<b>R0.00</b>	<b>R0.00</b>	<b>R69,030.35</b>	<b>R69,030.35</b>
<b>SITE DEVELOPMENT TOTAL (2)</b>				
	<b>R0.00</b>	<b>R0.00</b>	<b>R1,138,000.00</b>	<b>R1,138,000.00</b>
<b>RATE/ASM</b>				
	R0.00	R0.00	R96.16	R96.16
<b>RATE/GROSS m2</b>				
	R0.00	R0.00	R63.80	R63.80
<b>3 SECURITY</b>				
<b>Z20 SECURITY</b>				
A00 PRELIMINARIES^	R0.00	R210,000.00		R210,000.00
	R0.00	R13,620.00		R13,620.00
<b>SECURITY TOTAL (3)</b>				
	R0.00	R223,620.00		<b>R223,620.00</b>
<b>RATE/ASM</b>				
	R0.00	R0.00		R18.90
<b>RATE/GROSS m2</b>				
	R0.00	R0.00		<b>R12.54</b>
<b>4 ABNORMAL GROUND CONDITIONS</b>				
<b>B00 SUB-STRUCTURE</b>				
A00 PRELIMINARIES**	R533,346.00	R0.00	R0.00	R533,346.00
	R34,654.00	R0.00	R0.00	R34,654.00
<b>RATE/ASM</b>				
	R48.00	R0.00	R0.00	R48.00
<b>RATE/GROSS m2</b>				
	R31.84	R0.00	R0.00	<b>R31.84</b>
<b>5 PROJECT COST TOTAL (1-4)</b>				
	<b>R25,908.000.00</b>	<b>R223,620.00</b>	<b>R1,138,000.00</b>	<b>R27,269.620.00</b>
=====				
<b>RATE/ASM</b>				
	R2,189.29	R0.00	R96.16	R2,304.35
<b>RATE/GROSS m2</b>				
	R1,452.40	R0.00	R63.80	R1,528.74

\*\*Can be included in individual amounts



## SPACE NORM RECONCILIATION STATEMENT

PROJECT NAME: EXAMPLE OFFICE BUILDING REF. NO: 5/54880/1  
 SPACE NORM RECONCILTN STATEMENT AT: 97/06 WCS 001010

ASSIGNABLE SPACE: 11860.48 ASM (ASM=GSM)

SPACE CATEGORY	SPACENORM (ASM) a	PLANNED SPACE (ASM) b	RESERVE SPACE c = a- b	% OF NORM c / a x 100
4.1 GENERAL WORKING SPACE	3635.38	3620.50	14.88	0.4
4.2 OFFICE SERVICE SPACE	2574.12	2595.50	- 21.38	-0.8
4.3 OFFICIAL MEETING SPACE	677.40	680.60	-3.20	-0.5
4.4 COMPUTOR FACILITIES	790.30	760.40	29.90	3.8
4.5 TEA FACILITIES	225.80	225.80	0.00	0.0
4.6 FOOD SERVICES	395.15	385.20	9.95	2.5
4.7 TUCK SHOP	56.45	55.70	0.75	1.3
4.8 ADDITIONAL FACILITIES	1354.80	1360.30	-5.50	-0.4
4.9 ADDITIONAL NEEDS(PARKING)	2151.08	2150.00	1.08	0.1
TOTAL ASSIGNABLE SPACE	11860.48	11834.00	26.48	0.2
NON-ASSIGNABLE SPACE	-	6004.00	-	33.66
GROSS BUILDING AREA	-	17838.00	-	100.00

We hereby certify that the project as designed complies with the approved space norm and that the planning units have been provided

PROJECT ARCHITECT

Including covered walkways/secondary circulation

DATE

## SPACE NORM RECONCILIATION STATEMENT

PROJECT NAME: EXAMPLE HOUSING REF. NO: 5/54880/1  
 SPACE NORM RECONCILTN STATEMENT AT: 97/06 WCS 001010  
 GROSS SQUARE METRE 17702.00 GSM (ASM=GSM)

SPACE CATEGORY	SPACENORM (GSM)	PLANNED SPACE (GSM)	RESERVE SPACE	% OF NORM
	a	b	c = a - b	c / a x 100
4.1 SINGLE QUARTERS	1963.00	1783.00	180.00	9.2
42 HOUSES	5072.00	4520.00	552.00	10.9
4.3 DUPLEX FLATS	10667.00	11535.00	-868.00	8.1
4.4 RECREATION	0.00	0.00	0.00	0.0
4.5	0.00	0.00	0.00	0.0
4.6	0.00	0.00	0.00	0.00
4.7	0.00	0.00	0.00	0.0
4.8	0.00	0.00	0.00	0.0
4.9	0.00	0.00	0.00	0.0 RATIO
GROSS BUILDING AREA*	17702.00	17838.00	-136.00	-0.8 100.0

=====

We hereby certify that the project as designed complies with  
 the approved space norm and that the planning units have  
 been provided

\_\_\_\_\_  
 PROJECT ARCHITECT

Including covered walkways/secondary circulation

\_\_\_\_\_  
 DATE

**CONTRACT STATUS, FINANCIAL,  
COST NORM AND CASH FLOW  
REPORTS (PRM 036)**

DEPARTMENT OF PUBLIC WORKS  
CONTRACT STATUS REPORT

MONTH: \_\_\_\_\_  
WCS NO: \_\_\_\_\_  
REFERENCE NO: \_\_\_\_\_

PROJECT: \_\_\_\_\_

PROJECT MANAGER: \_\_\_\_\_

PRINCIPAL AGENT: \_\_\_\_\_

**A PROGRESS & COMPLETION:**

- A1 Contract commencement date \_\_\_\_\_ (Date of letter of acceptance of tender)
- A2 Contractual completion date: \_\_\_\_\_ (= \_\_\_\_\_ month of contract)
- A3 Extended completion date \_\_\_\_\_ (as approved by client)
- A4 Extended 1st delivery date \_\_\_\_\_ (as determined by agent)

REASONS FOR VARIANCE BETWEEN A2 / A3 & A4 :

\_\_\_\_\_  
\_\_\_\_\_

OTHER COMMENTS REGARDING DELAYS. PROGRESS, ETC.:

\_\_\_\_\_  
\_\_\_\_\_

**B FINANCIAL DATA:**

- B1 Tender amount (including VAT) R \_\_\_\_\_
- B2 Anticipated final cost R \_\_\_\_\_ (From financial report)
- B3 Subject to cost norms \_\_\_\_\_ Yes/No
- B4 If Yes, will contract be completed within cost norm limits \_\_\_\_\_ Yes/No
- B5 If No, furnish reasons for variation from tender norms reconciliation and corrective action to be taken :

Details of monetary and / or time claims received from Contractor:

C NOMINATED / SELECTED SUBCONTRACTORS	DEADLINE FOR NOMINATION TO AVOID DELAYS	DATE OF TENDER ACCEPTANCE
_____	_____	_____
_____	_____	_____

CERTIFIED CORRECT:

QUANTITY SURVEYOR

DATE

- NB 1 FINANCIAL REPORT TO BE ATTACHED TO THIS DOCUMENT
- 2 FINAL ACCOUNT TO BE SUBMITTED TO THE DEPARTMENT WITHIN 3 MONTHS DELIVERY

PRINCIPAL AGENT

DATE

**DEPARTMENT OF PUBLIC WORKS**  
**FINANCIAL REPORT**

PRM036/2

PROJECT: \_\_\_\_\_ MONTH: \_\_\_\_\_  
 PROJECT MANAGER: \_\_\_\_\_ WCS NO: \_\_\_\_\_  
 PRINCIPAL AGENT \_\_\_\_\_ REFERENCE NO: \_\_\_\_\_

DESCRIPTION	TENDER ANALYSIS A	PREVIOUS REPORT B	CURRENT REPORT C	CURRENT REPORT (B-C)	ACCUMULATIVE VARIATIONS (C-A)	REFERENCE:
1. PRELIMANARIES  2. VUILDING WORK  3. PROVISIONAL ITEMS & WORK MEASURED  4. PROVISIONALLY  5. PROVISIONAL SUMS (EXCLUDING PROFIT & ATTENDANCE)  6. PROFIT & ATTENDANCE ON PROVISIONAL SUMS  7. VARIAION ORDERS (APPROVED)  8. VARIATION ORDERS, SITE INSTRUCTIONS & OTHER INSTRUCTIONS  SUB-TOTAL A:  8. CPA (PROJECTED) SUB-TOAL B:  9. VAT  SUB-TOTAL C:  10. LESS CREDITS FOR OLD MATERIALS, ETC.  11. ANTICIPATED TOTAL COSTS:						









WCS NO: \_\_\_\_\_

**VARIATION ORDERS (APPROVED)**

DESCRIPTION	OMISSION	ADDITION
VARIATION ORDERS (SCHEDULED RATES)		
VARIATION ORDERS (NON-SCHEDULED RATES) (not exceeding 5% of contract value excluding VAT)		
TOTAL		
NET ADJUSTMENT		

WCS NO: \_\_\_\_\_

**VARIATION ORDERS SITE INSTRUCTIONS & OTHER INSTRUCTIONS NOT YET APP**

DESCRIPTION	OMISSION	ADDITION
TOTAL		
NET ADJUSTMENT		

WCS NO : \_\_\_\_\_

**PROFESSIONAL FEES (FEES ON CPA EXCLUDED)**

DESCRIPTION	AMOUNT
ARCHITECTS	
QUANTITY SURVEYORS	
ENGINEERS A STRUCTURAL B CIVIL C MECHANICAL D ELECTRICAL	
OTHER	
TOTAL	

**DEPARTMENT OF PUBLIC WORKS**

**COST NORM REPORT**

**MONTH:** \_\_\_\_\_

**WCS NO:** \_\_\_\_\_

**REFERENCE NO:** \_\_\_\_\_

**PROJECT:** \_\_\_\_\_

**PROJECT MANAGER:** \_\_\_\_\_

**PRINCIPAL AGENT** \_\_\_\_\_

DESCRIPTION	NORMS RECONCILIATION	PREVIOUS REPORT	CURRENT REPORT	REFERENCE
ANTICIPATED FINAL COST				
ADD PROFESSIONAL FEES (EXCLUDING FEES ON CPA)				PRM 0368
<b>SUB-TOTAL A:</b>				
OMIT CPA (PROJECTED)				
<b>SUB-TOTAL B:</b>				
ADD RESERVE FUND 1				
ADD RESERVE FUND 2				
ADD RESERVE FUND 3				
<b>TOTAL :</b>				

**RESERVE FUND ANALYSIS (TENDER PROVISION)**

RESERVE FUND 1	
RESERVE FUND 2	
RESERVE FUND 3	
TOTAL	
ACCUMULATIVE VARIATIONS (-OR) (CPA EXCLUDED)	
SUB-TOTAL	
ADJUSTMENT FOR OTHER SAVINGS OR LOSSES	
BALANCE OF RESERVE FUND	

**\*DESCRIPTION:**

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**DEPARTMENT OF PUBLIC WORKS  
ANNUAL CASH FLOW FOR BUDGETING PURPOSES**

DATE OF REPORT: \_\_\_\_\_  
 WCS NO: \_\_\_\_\_  
 REFERENCE NO: \_\_\_\_\_

PROJECT: \_\_\_\_\_  
 PROJECT MANAGER \_\_\_\_\_

PRINCIPAL AGENT

DISCIPLINE	YEAR	YEAR 0		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	TOTAL
	AMOUNTS ALREADY PAID IN PREVIOUS FINANCIAL YEARS R X 1000	AMOUNTS ALREADY PAID IN PREVIOUS FINANCIAL YEARS R X 1000	ESTIMATED AMOUNT PAYABLE FOR REMAIN OF FINANCIAL YEAR R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000	R X 1000
A CONTRACTOR													
SUB-TOTAL A													
B CONSULTANTS													
1 ARCHITECT													
2 QUANTITY SURVEYOR													
3 ENGINEERS													
3.1. ELECTRICAL													
3.2 MECHANICAL													
3.3 CIVIL													
3.4 STRUCTURAL													
4 OTHER													
SUB-TOTAL B													
TOTAL (A+B)													

NOTE: 1 THE FINANCIAL YEAR OF THE PUBLIC SECTOR RUNS FROM 1 APRIL TO 31 MARCH 2 (YEAR0) REPRESENT THE FINANCIAL YEAR, YEAR (0-1) REPRESENT THE FOLLOWING FINANCIAL YEAR ETC. (PLEASE INSERT THE APPROPRIATE YEARS AT TOP OF EACH COLUMN. EG. IF THE PRESENT YEAR IS 93/94 (YEAR 0 + 1) IS 94/95, ETC..

**CERTIFICATE OF COMPLIANCE**  
**AND INDEMNITY BY CONSULTANTS (PRM 044)**

**DEPARTMENT OF PUBLIC WORKS**  
**CERTIFICATE OF COMPLIANCE AND INDEMNITY BY CONSULTANTS**

**WCS NO:** \_\_\_\_\_

**REFERENCE NO:** \_\_\_\_\_

**PROJECT:** \_\_\_\_\_

**PROJECT MANAGER:** \_\_\_\_\_

**PRINCIPAL AGENT:** \_\_\_\_\_

**NAME OF CONTRACTOR:** \_\_\_\_\_

I / We appointed Consultants for this service, hereby certify that the final account has been prepared according to the following requirements:

- (a) That it has been prepared in accordance with the Department's example;
- (b) Where schedule rates are applicable these have been used and non-schedule rates where possible have been based on schedule rates;
- (c) Where it is not possible to use schedule rates, items have been priced by me/us in accordance with the appropriate clause of the Condition of Contract. Calculations of non-schedule rates have been included with the final account and invoices, quotations, etc, where applicable are also attached thereto;
- (d) Copies of all invoices, receipted accounts, etc. mentioned in the final account are attached and are cross referenced to the items in the final account;
- (e) Fluctuations in cost are in accordance with the contract price adjustment provisions laid down in the bills of quantities,
- (f) All "day work" sheets duly approved have been checked and attached to the final account;
- (g) All items included in the final account (except provisional items) are covered by the necessary approved variation orders or written site instructions;
- (h) All provisional items have been remeasured. Where provisional items have been varied, a list of all such unvaried items has been included in the final account, stating that such items have not been executed as measured;
- (i) All fruitless expenditure has been identified in the final account and a list of these items with their respective values, is attached thereto. For the purpose of this subclause "fruitless expenditure" shall mean the value of the work carried out and subsequently altered as a result of negligence and / or defective planning, resulting in work already planned and executed in good faith being made undone;
- (j) All calculations and amounts have been checked,
- (k) No payments have been made to the contractor which are not in terms of the Contract,
- (i) Unless otherwise instructed by the Department, penalties for late completion of the contract have been deducted from monies due to the contractor and the deduction shown on the final statement.

I / We indemnify the Department against any overpayment which was made in terms of the final account as a result of incorrect information provided by me / us unless I / we can prove to the reasonable satisfaction of the Department that there was no negligence on my / our part or on the part of anyone in my / our employ. The Department shall be obliged, against payment to it in terms of this indemnity, to give cession to me / us of such claims as it may have against the contractor or any other party as may be necessary to enable me / us to recover from the contractor or any other party the amount paid over in terms of this indemnity. This document shall not constitute any novation of my / our obligations towards the Department.

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**FIRM / CONSORTIUM / FIRMS-IN-COLLABORATION**



**FINAL ACCOUNT**

(FILE NO. , IF AVAILABLE)

REPUBLIC OF SOUTH AFRICA  
DEPARTMENT OF PUBLIC WORKS  
ALTERATIONS AND ADDITIONS  
TO  
SUPREME COURT  
AT  
JOHANNESBURG  
FINAL ACCOUNT

WCS 003706

CONTRACTOR

D JURGENS & SONS  
16 COVE ROAD  
KOPPIESDRAAI 1532

QUANTITY SURVEYORS

J Coote  
JOHANNESBURG

ARCHITECTS

Paxley & Greenman  
JOHANNESBURG

CENTRAL GOVERNMENT OFFICES  
VERMEULEN STREET  
PRETORIA

**REPUBLIC OF SOUTH AFRICA**  
**DEPARTMENT OF PUBLIC WORKS**  
**ALTERATIONS AND ADDITIONS**  
**TO**  
**SUPREME COURT**  
**AT**  
**JOHANNESBURG**

WCS 003706

CONTRACTOR

D JURGENS & SONS  
 16 COVE ROAD KOPPIESDRAAI  
 1532

FINAL STATEMENT

NET AMOUNT OF CONTRACT (VAT excluded)	R 290,000.00
NET OMISSION (or ADDITION) (VAT excluded)	<u>6.018.16</u>
	R 283,981.84
CONTRACT PRICE ADJUSTMENTS	<u>10.200.80</u>
	R 294,182.64
LESS: PENALTY FOR LATE COMPLETION	R <u>3.000.00</u>
	R 291,182.64
VALUE ADDED TAX	<u>40.765.57</u>
<u>FINAL VALUE OF CONTRACT</u>	R <u>331,948.21</u>

\_\_\_\_\_  
PROJECT MANAGER

\_\_\_\_\_  
pp DIRECTOR-GENERAL:  
PUBLIC WORKS

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

I, the undersigned, duly authorized, accept the above statement as correct.

\_\_\_\_\_  
D JURGENS & SONS  
CONTRACTOR

\_\_\_\_\_  
DATE

EXAMPLE OF FINAL ACCOUNTBILLINGVARIATIONSITEM1: WATER CONNECTIONVO NO. 1OMIT:

Water connection and profit as item 1 and 2

page 84				R	<u>110.00</u>
---------	--	--	--	---	---------------

ADD:

Water connection as per attached receipt				R	125.00
--	--	--	--	---	--------

Profit on last as 2/84 (Note: The profit is to be determined on a pro-rata basis)					<u>12.50</u>
---	--	--	--	--	--------------

				R	<u>37.50</u>
--	--	--	--	---	--------------

ITEM 2 : CUPBOARD IN MATRON'S BEDROOMVO NO. 2

Included with Hem 4, alterations to Matron's Flat

ITEM 3 : COUNTER IN SECRETARY'S OFFICEVO NO. 3OMIT:

75 mm Breeze concrete bed as 16/29	m	3	2.10	R	6.30
------------------------------------	---	---	------	---	------

Wrot Meranti counter as items 4 to 22 page 69					83.90
--	--	--	--	--	-------

100mm Brass hinges as 11/72	Pairs	2	4.42		8.84
-----------------------------	-------	---	------	--	------

Two coats oil on hardwood as 24/106	m <sup>2</sup>	11	0.60		<u>6.60</u>
-------------------------------------	----------------	----	------	--	-------------

				R	<u>105.64</u>
--	--	--	--	---	---------------

ADD:

38 x 76 mm Wrot SA Pine bearers	m	5	0.60		3.00
---------------------------------	---	---	------	--	------

38 x 76 mm Framed standards and rails as 4/69 but rebated	m	17	1.00		17.00
--	---	----	------	--	-------

ITEM 3 (Continued)

25 mm Wrot SA pine cross tongued shelves as 5/69	m	1	18.00	18.00
--	---	---	-------	-------

25 mm Ditto cross tongued bottom as 6/69	m	2	20.00	20.00
--	---	---	-------	-------

WROT KIAAT

32 mm Cross tongued top, screw fixed from underside	m	3	46.20	138.60
---	---	---	-------	--------

Groove	m	5	0.38	1.90
--------	---	---	------	------

Rebate	m	4	0.38	1.52
--------	---	---	------	------

19 mm Quarant bead	m	3	0.77	2.31
--------------------	---	---	------	------

25 x 76 mm Rebated edge strip	m	2	2.20	4.40
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ITEM 4: ALTERATIONS TO MATRON'S FLAT (INCLUDING VO 2)VO NO'S 2 AND 4 :OMIT :

Take out and remove door and build up opening as 6/11	Item		R	50.00
---	------	--	---	-------

Concrete surface bed as 2/16	m	0.3	19.50	5.85
------------------------------	---	-----	-------	------

Wrot Block floor as 34/51	m	4	8.13	32.52
---------------------------	---	---	------	-------

44 mm Wrot S A pine four panel door as 67/64	No	1	31.25	31.25
--	----	---	-------	-------

100 mm Steel butt hinges as 3/68	Pairs	1.5	2.64	3.96
----------------------------------	-------	-----	------	------

2 Lever mortice lock as 16/69	m	1	15.80	15.80
-------------------------------	---	---	-------	-------

13 mm Cement screed for block floors as 16/79	m	4	1.70	6.80
---	---	---	------	------

Two coats oil on general surfaces as 63/96	m	4	1.40	5.60
--	---	---	------	------

One coat oil and one coat wax polish on Wood block floors as 83/98	m	5	0.63	3.15
			R	154.93

ADD:

One brick wall as 28/42	m <sup>2</sup>	9	10.00	90.00
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Set up in position steel door frame as 29/47	No	1	2.50	<u>2.50</u>
--	----	---	------	-------------

etc.. etc.			R	<u>92.50</u>
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ITEM 5 : ASBESTOS CEMENT IN LIEU OF  
GYPSUM CEILINGSVO NO. 5

At no variation in cost (As agreed)

ITEMS: DOOR NUMBERS \_\_\_\_\_OMIT:

38 mm Brass numbers as 34/87				R	<u>29.40</u>
------------------------------	--	--	--	---	--------------

ADD:

38 mm Brass numbers as 34/87	No	149	0.35	R	52.15
------------------------------	----	-----	------	---	-------

50 mm Chromium plated numbers as screwed to hardwood	No	73	0.50		<u>36.50</u>
---	----	----	------	--	--------------

				R	<u>88.65</u>
--	--	--	--	---	--------------

ITEM 7: SEWER CONNECTION

Included with item 50. Soil and Waste Water Drainage

ITEM 8 : RE-MEASUREMENT OF FOUNDATIONS  
(INCLUDING VO 27 NO 27)OMIT:BILL NO. 2 : ADMINISTRATION BLOCK AND HALL

Item 1 to 67 pages 20 to 27				R	2,876.84
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BILL NO. 3: CLASSROOM BLOCK

Item 143 to 249 pages 120 to 145					<u>3,210.50</u>
----------------------------------	--	--	--	--	-----------------

				R	<u>6,087.34</u>
--	--	--	--	---	-----------------

ADD:

Clear site as 1/20	Item			R	25.00
--------------------	------	--	--	---	-------

Excavate in earth to reduce levels as 2/20	m <sup>2</sup>	20	1.40		<u>28.00</u>
--	----------------	----	------	--	--------------

etc.				R	<u>53.00</u>
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ITEM 9 : STORMWATER DRAINAGEOMIT:

Item 1 to 16 pages 117 and 118				R	<u>209.93</u>
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ADD:

450 x 175 mm Concrete stormwater channels as 2/117	m	28	3.05	R	85.40
Angle as 3/117	No	3	1.50	R	4.50
T-Junction as 4/117	No	6	1.50	R	9.00
Irregular junction as 5/117	No	2	1.50	R	3.00
Sump as 6/117 but 800 mm deep	No	1	134.00	R	<u>134.00</u>
				R	<u>235.90</u>

**SUMMARY**

<u>ITEM</u>		<u>OMISSIONS</u>		<u>ADDITIONS</u>
<u>NO. ITEM</u>				
1. Water Connection		110.00		137.50
2. Cupboard in Matron's Bedroom		-		-
3. Counter in Secretary's Office		105.64		226.73
4. Alterations to matron's Flat		154.93		92.50
5. Asbestos cement in lieu of Gypsum Ceilings		-		-
6. Door Numerals		29.40		88.65
7. Sewer connection		-		-
8. Re-measurement of foundations		6,087.34		53.00
9. Stormwater drainage	R	<u>209.93</u>	R	<u>235.90</u>
	R	6,697.24	R	<u>834.28</u>
Less: Additions	R	<u>834.28</u>		
	R	5,862.96		
Adjustment for Preliminaries as item B8.3 Section 1 of Bills of Quantities (the calculation must be shown here or elsewhere)	R	<u>155.20</u>		
NETT OMIT	R	<u>6,018.16</u>		

## VAT

The calculation of Value Added Tax (VAT) must, if necessary, be shown separately after the summary.