

MONSTERLUS TO MAKGOPHENG, KGOSHI MATSEPE & MATHEBE CONSTRUCTION OF ACCESS ROADS

**Situated in
ELIAS MOTSOLEDI LOCAL MUNICIPALITY**

C3.1 STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396: 2003:	Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures
SANS 1914-1 to 6 (2002):	Targeted Construction Procurement
SANS 1921 – 1 (2004):	Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works
SANS 1921-5 (2004):	Generic Labour Intensive Specification Part 5: Earthworks.

and where accommodation of traffic is involved:

SANS 1921-2 (2004):	Construction and Management Requirements for Works Contracts Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.
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C3.2: PROJECT SPECIFICATIONS

STATUS

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

Part B contains variations, amendments and additions to the Standardized Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standardized or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

PART A: GENERAL

PS-1 PROJECT DESCRIPTION

The employer's objectives are to deliver public infrastructure using labour intensive methods in accordance with EPWP Guidelines

Take note that the Contractor is required to spend 10% of the Contract Amount on Labour and 20% of the Contract amount on Local SMME's.

Labour-intensive works

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of this Scope of Work.

Labour-intensive competencies of supervisory and management staff

Contractors shall engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/Supervisors at NQF "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/Manager at NQF level 4 "Manage labour-intensive Construction Processes" or equivalent QCTO qualifications.

The Elias Motsoaledi Municipality envisages the Construction of Access roads in Monsterlus to Makgopeng, Kgoshi Matsepe & Mathebe villages. These villages combined equate to 1.2km length of road under this project phase.

The associated works for the road and stormwater project will entail construction of the following;

- Mass earthworks for subgrade treatment
- Construction of road pavement layers of gravel material (neat and stabilized)
- Construction of underground storm water drainage structures as well as surface open drains
- Precast concrete kerbing, channelling, and concrete edge beams
- Precast concrete block paving.
- Double seal paving

- Road sign posting and carriageway markings
- Ancillary road works and road side furniture

PS-2 DESCRIPTION OF THE SITE AND ACCESS

2.1 Location of site

The project is located in Matsepe Village, Ntwane village and Monsterlus village, the areas are found in the Limpopo province. Ga-Matsepe is approximately 22 km from Groblersdal town, Ntwane Ga-Kgoshi Mathebe is approximately 44 km from Groblersdal town and Monsterlus is approximately 50 km from Groblersdal town.

PS-3 DETAILS OF THE WORKS

A brief detail of the works for which this specification is applicable is as follows:

3.1 Roadwork's

- Single carriageway, each lane 3m paved width per lane.
- Trapezoidal open earth side drains
- Trapezoidal concrete lined side drains
- Mountable kerbing interchanged with concrete lined drains
- Installation of pre-cast culverts

The pavement structure will be as follows: (Kgoshi Matsepe & Mathebe)

Pavement Structure	
Surfacing	80mm interlocking paving blocks
Base	20 mm Coarse Sand
Sub base	150 mm G5
Subgrade/Roadbed	R&R 100 mm In-Situ material

The Pavement structure will be as follows: (Monsterlus to Makgopheng)

Pavement Structure	
Type	High Level Single Carriageway
Surfacing	13.2/6.7mm Double Seal
Base	150 mm C4
Sub base	150 mm G5
Subgrade/Roadbed	R&R 100 mm In-situ material

3.2 Nature of ground conditions and subsoil conditions

A summary of the report containing the findings of the geotechnical investigation is attached in Section C4.3.

The limits of the project are as shown on the locality plan bound into the book of drawings to be received together with this document.

3.6 Climatic conditions

The rainfall data for the area is as adopted from the Marble Hall weather station as tabulated under clause 2.1.6 of Part C1 of this volume.

3.7 Labour recruitment conditions

A Project Steering Committee (PSC) will be established and is a vital means of communication between all parties involved with the project. The composition of the PSC comprises representation by the Employer, the Engineer and formal structures within the community.

The contractor shall make use of these communication channels, and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PSC, and this representative may be also required to attend the monthly PSC meetings.

It is mandatory that the Contractor shall interact with the community via proactive project liaison and project participation by its leaders and constituted organizations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

Local labor is to be used and the employment of such labor is to be done in conjunction with the PSC. The PSC shall appoint a Community liaison officer (C.L.O.) (which shall be remunerated under the contract) who shall be in full time employ of the contract. The duties of the C.L.O. shall consist inter alia of the following:

- To be available on site daily between the hour of 07:00 and 17:00 and at other times as the need arises. His normal working day will extend from 07:00 in the morning until 17:00 in the afternoon.
- To communicate daily with regard to number and skills, to facilitate in labour disputes and to assist in their resolution.
- To attend all meetings in which the community and/or labour are present or are required to be represented.
- To attend all PSC meeting to report on labour.
- To assist in the identification and screening of laborers from the community in accordance with the contractor's requirements.
- To advise and inform temporary laborers of their conditions of employment and to inform temporary laborers as early as possible when their period of employment will be terminated.
- To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- To keep a daily written record of his interviews and community liaison, labour force etc.
- To attend monthly site meetings and report in writing on labour and contract matters.
- Keeping a data base of available labour.
- All such other duties as agreed upon between all parties concerned.
- Compile a list of available skills in the area (skills audit).

4.11 Construction in confined Areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant.

However, the Contractor shall note that, unless provided for in terms of the scheduled payment items in the COLTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the Bided rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

PS-4 CONSTRUCTION AND MANAGEMENT REQUIREMENTS

4.1 General

The Contractor is referred to **SANS 1921: 2004 parts 1, 2 and 3: Construction and Management Requirements for Works Contracts**. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

4.2 Drawings (Read with SANS 1921 – 1: 2004 clauses 4.1.7; 4.1.11 and 4.1.12)

The reduced drawings which form part of the Bid documents shall be used for Bidding purposes only and is attached at the back of this document under section C4.3.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense re-produce further paper prints required for the construction of the work.

At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period.

Any information which the Contractor has control over and which is required by the Resident Engineer to complete the as-built drawings shall be made available to the Resident Engineer before the Certificate of Completion is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.

Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

4.3 Responsibilities for design and construction (Read with SANS 1921 – 1:2004 Clause 4.2)

4.3.1 The responsibility strategy followed in this contract shall be A.

4.3.2 The design engineer responsible for the design in accordance with the specification is: Tlou Integrated Tech

4.4 Planning, Programme and Method Statements (Read with SANS1921-1:2004 clause 4.3)

4.4.1 Preliminary programme

The Contractor shall include with his Bid a preliminary programme on the prescribed form to be completed by all Bidders. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Bidders may submit Bids for an alternative Time for Completion in addition to a Bid based on the specified Time for Completion. Each such alternative Bid shall include a preliminary programme similar to the programme above for the execution of the works, and shall motivate his proposal clearly by stating all the

financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his Bided rates and prices as well as in his programme for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Special Conditions of Contract, in the Project Specifications and in the Contract Data.

The following constraints shall be taken into account in preparing the preliminary construction programme which must be submitted with the Bid. These same constraints shall apply to the final construction programme.

- a) The Contract will be as Bided by the contractor. Plant and personnel requirements to complete the project must be incorporated in the Bid and shown on the programme.
- b) A high standard of traffic accommodation
- c) The relocation of services
- d) Ancillary works by Emerging Contractors

4.4.2 Programme in terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the bid shall be used as basis for this programme..

The following must be stated on the programme:

- (a) 2 weeks must be allocated at the start of the project for the setting out and confirmation of survey benchmarks. No work will be allowed prior to the survey confirmation process being completed.
- (b) The quantity of work applicable to each bar item as well as the rate at which the work will be completed.
- (c) A budget of the value of completed work, month by month, for the full contract period.
- (d) The critical path.
- (e) Work to be undertaken by Local Contractor (if applicable)
- (f) Training Courses
- (g) Schedule of plant and resources to be utilized

The Contractor's attention is also drawn to Clause 5.7 of the General Conditions of Contract 2015.

4.4.3 Time for Completion

The Time for Completion shall be **6 months** as indicated under section C1.2. Contract Data.

4.4.4 Delay in Completion

The Contractor shall organise the Works in such a manner that no delays occur. Delays due to faulty organisation or lack or shortage of materials or labour or co-operation with other parties or to any other cause within the control of the Contractor will not be counted and full power is reserved by the Engineer to order the Contractor to expedite the work should the work, in the opinion of the Engineer, not progress in a satisfactory way.

4.5 Quality Assurance (QA) *(Read with SANS 1921 – 1: 2004 clause 4.4)*

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment

and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Engineer's representative to act as foreman or surveyor.

4.6 Management and disposal of water (Read with SANS 1921 – 1 : 2004 clause 4.6)

The Contractor shall pay special attention to the management and disposal of water and storm water on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

4.7 Earthworks (Read with SANS 1921 – 1: 2004 clause 4.10)

4.7.1 Borrow pits and spoil areas

The borrow pits to be used for this contract shall be pointed out at the Site Inspection. The Contractor shall be permitted to use only those borrow pits approved by the Engineer.

The spoil sites shall be determined on site in conjunction with the Engineer, the PSC, and the local communities. The Contractor shall be permitted to use only those spoil areas approved by the Engineer.

Should the Contractor wish to use any other spoil area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the landowner.

4.8 Testing (Read with SANS 1921 – 1 : 2004 clause 4.11)

4.8.1 Process control

The Contractor shall arrange for his own process control tests. The Contractor may establish his own laboratory on site for this purpose, or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

4.8.2 Acceptance control

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer shall have his own acceptance control tests carried out by the dedicated site laboratory as approved by the client. The cost of acceptance testing shall be to the account of the client.

4.9 Site Establishment (Read with SANS 1921 – 1 : 2004 clause 4.14)

4.9.1 Contractor's camp site and depot

The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and laborers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor.

The chosen site shall be subject to the approval of the Engineer and the Project Steering Committee (PSC). Possible locations for a campsite shall be pointed out at the Site inspection. The Contractor shall conform to all local authority, environmental and industrial regulations.

The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts Bided for the various items of work for which these services are required.

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the

Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.

4.9.2 Accommodation of Employees

No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site.

No informal housing or squatting will be allowed.

The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets will only be allowed where temporary facilities have to be provided.

4.10 Survey beacons *(Read with SANS 1921 – 1 : 2004 clause 4.15)*

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

4.11 Existing Services *(Read with SANS 1921 – 1: 2004 clause 4.17)*

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

It is the contractors responsibility to identified services that will interact with the construction work. The contractor will be responsible to do the application and negotiation on the relocation of the sifting of services.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

Services belonging to the following service owners will be encountered.

SERVICE OWNER	TYPE OF SERVICE
Eskom	Electrical/Power lines
Telkom	Telephone lines
Elias Motsoaledi Local Municipality	Water and sewer lines and reticulation within the rural area
Department of Water and Sanitation	Bulk water and sewer lines
Tribal Authority	Land owner, graves
Private owners	Property boundaries and perimeter fencing.

Estimate quantities and specifications were included in the bill of quantities for the protection and/or shifting of services (Bill item 12.01-Relocation of existing services).

Two weeks prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately. The contractor shall make provision in his programme for the location and/or shifting of services.

The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

4.12 Health and Safety (Read with SANS 1921 - 1: 2004 clause 4.18)

4.12.1 General statement

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act (OHSA) No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2014 issued on 7 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in section C1.5.

4.12.2 Health and Safety Specifications and Plans

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in Section C3.3, of the Bid documents as part of the Particular Specifications.

(b) Bidder's Health and Safety Plan

The Bidder shall submit with the bid his own documented Health and Safety Plan he proposes to be implement for the execution of the work under the contract. The Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9 to 30;
- (ii) pro-active identification of potential hazards and unsafe working conditions;
- (iii) provision of a safe working environment and equipment;
- (iv) statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 7*);
- (v) monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other applicable regulations; and
- (vii) details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

4.12.3 Cost of compliance with the OHSA Construction Regulations

The rates and prices Bided by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

4.13 Requirements for Accommodation of Traffic *(Read with SANS 1921 - 2 : 2004)*

4.13.1 General

The Contractor will be responsible for the safe and easy passage of public traffic past and on sections of roads of which he has occupation or where work has to be done near traffic.

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

Accommodation of traffic, where applicable shall comply with SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor. The Contractor shall obtain this specification from Standards South Africa if accommodation of traffic will be involved on any part of the construction works.

4.13.2 Basic Requirements

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc., in a good condition shall constitute ample reason for the Engineer to suspend the work until the road signs, etc., have been repaired to his satisfaction.

The Contractor may not commence constructional activities affecting existing roads before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.

The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working.

4.13.3 Payment

The Contractor's Bided rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the *modus operandi* will be considered.

4.14 Management of the environment *(Read with SANS 1921 - 1 : 2004 clause 4.19)*

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

4.14.1 Natural Vegetation

The Contractor shall confine his operation to the limits of the road reserve for the purpose of constructing the works and where applicable detours, shall be sited in consultation with the Engineer and the local communities.

Only those trees and shrubs directly affected by the works and such others as the Engineer may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

4.14.2 Fires

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

4.14.3 Environmental Management Plan

In addition to the above all requirements according to the Environmental Management Plan as detailed in C3.3, Particular Specifications, will be adhered to.

PS-5 Expanded Public Works Programme (EPWP) labour intensive specification

5.1. Labour Regulations

5.1.1 Payment for the labour-intensive component of the works

Payment for works identified in the Project Specifications as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

5.1.2 Applicable labour laws

The Ministerial Determination for Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R949 in Government Gazette 33665 of 22 October 2010, as reproduced below, shall apply to works described in the scope of work as being labour.

5.1.3 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.

In this document –

- (a) “department” means any department of the State, implementing agent or contractor;
- (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
- (c) “worker” means any person working in an elementary occupation on a EPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

5.1.4 Terms of Work

5.1.4.1 Workers on a EPWP are employed on a temporary basis or Contract Basis.

5.1.5 Normal Hours of Work

5.1.5.1 An employer may not set tasks or hours of work that require a worker to work–

- (a) more than forty hours in any week
- (b) on more than five days in any week; and
- (c) for more than eight hours on any day.

5.1.5.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

5.1.5.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

5.1.6 Meal Breaks

5.1.6.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

5.1.6.2 An employer and worker may agree on longer meal breaks.

5.1.6.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

5.1.6.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

5.1.7 Special Conditions for Security Guards

5.1.7.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.1.7.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

5.1.8 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

5.1.9 Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

5.1.10 Sick Leave

5.1.10.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this

clause.

- 5.1.10.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- 5.1.10.3 A worker may accumulate a maximum of twelve days' sick leave in a year.
- 5.1.10.4 Accumulated sick-leave may not be transferred from one contract to another contract.
- 5.1.10.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- 5.1.10.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- 5.1.10.7 An employer must pay a worker sick pay on the worker's usual payday.
- 5.1.10.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
 - (a) absent from work for more than two consecutive days; or
 - (b) absent from work on more than two occasions in any eight-week period.
- 5.1.10.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- 5.1.10.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

5.1.11 Maternity Leave

- 5.1.11.1 A worker may take up to four consecutive months' unpaid maternity leave.
- 5.1.11.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 5.1.11.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 5.1.11.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 5.1.11.5 A worker may begin maternity leave –
 - (a) four weeks before the expected date of birth; or
 - (b) on an earlier date –
 - (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - (ii) if agreed to between employer and worker; or
 - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 5.1.11.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

5.1.12 Family responsibility leave

- 5.1.12.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -
 - (a) when the employee's child is born;
 - (b) when the employee's child is sick;
 - (c) in the event of a death of –
 - (i) the employee's spouse or life partner;
 - (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

5.1.13 Statement of Conditions

- 5.1.13.1 An employer must give a worker a statement containing the following details at the start of employment –
- (a) the employer's name and address and the name of the EPWP;
 - (b) the tasks or job that the worker is to perform; and
 - (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
 - (d) the worker's rate of pay and how this is to be calculated;
 - (e) the training that the worker will receive during the EPWP.
- 5.1.13.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- 5.1.13.3 An employer must supply each worker with a copy of these conditions of employment.

5.1.14 Keeping Records

- 5.1.14.1 Every employer must keep a written record of at least the following –
- (a) the worker's name and position;
 - (b) in the case of a task-rated worker, the number of tasks completed by the worker;
 - (c) in the case of a time-rated worker, the time worked by the worker;
 - (d) payments made to each worker.
- 5.1.14.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

5.1.15 Payment

- 5.1.15.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- 5.1.15.2a The rate as set by the Employer is **R21.50 per hour** for local unskilled labour.
- 5.1.15.2b a worker may not be paid less than the minimum EPWP wage rate of **R150.00** per day or per task. This will be adjusted annually on the 1st of November in line with inflation (Available CPI as provided by Stats SA six (6) weeks before implementation)
- 5.1.15.3 A task-rated worker will only be paid for tasks that have been completed.
- 5.1.15.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- 5.1.15.5 A time-rated worker will be paid at the end of each month.
- 5.1.15.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- 5.1.15.7 Payment in cash or by cheque must take place –
- (a) at the workplace or at a place agreed to by the worker;
 - (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
 - (c) in a sealed envelope which becomes the property of the worker.
- 5.1.15.8 An employer must give a worker the following information in writing –
- (a) the period for which payment is made;
 - (b) the numbers of tasks completed or hours worked;
 - (c) the worker's earnings;
 - (d) any money deducted from the payment;

(e) the actual amount paid to the worker.

5.1.15.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

5.1.15.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

5.1.16 Deductions

5.1.16.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

5.1.16.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

5.1.16.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

5.1.16.4 An employer may not require or allow a worker to –

- (a) repay any payment except an overpayment previously made by the employer by mistake;
- (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
- (c) pay the employer or any other person for having been employed.

5.1.17 Health and Safety

5.1.17.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

5.1.17.2 A worker must –

- (a) work in a way that does not endanger his/her health and safety or that of any other person;
- (b) obey any health and safety instruction;
- (c) obey all health and safety rules of the EPWP;
- (d) use any personal protective equipment or clothing issued by the employer;
- (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

5.1.18 Compensation for Injuries and Diseases

5.1.18.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

5.1.18.2 A worker must report any work-related injury or occupational disease to their employer or manager.

5.1.18.3 The employer must report the accident or disease to the Compensation Commissioner.

5.1.18.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

5.1.19 Termination

5.1.19.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

5.1.19.2 A worker will not receive severance pay on termination.

5.1.19.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to

resign should advise the employer in advance to allow the employer to find a replacement.

5.1.19.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

5.1.19.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

5.1.20 Certificate of Service

5.1.20.1 On termination of employment, a worker is entitled to a certificate stating –

- (a) the worker's full name;
- (b) the name and address of the employer;
- (c) the EPWP on which the worker worked;
- (d) the work performed by the worker;
- (e) any training received by the worker as part of the EPWP;
- (f) the period for which the worker worked on the EPWP;
- (g) any other information agreed on by the employer and worker.

5.1.21 Contractor's default in payment to Labourers and Employees

Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

5.1.22 Provision of Hand tools

The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions.

5.1.23 Reporting

The Contractor shall submit monthly returns/reports as specified below:

- Signed Muster rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- Plant utilization returns
- Progress report detailing production output compared to the programme of works intensive and which are undertaken by unskilled or semi-skilled workers.

9.2 Labour intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading designation of 3CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1GB, 2 GB, 3 GB and 4 GB shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such

contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

5.2 Employment of unskilled and semi-skilled workers in labour-intensive works – According to SANS 1914-5.

5.2.1 Requirements for the sourcing and engagement of labour.

5.2.1.1 Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

5.2.1.2 The normal Government Gazette rate as published by the department of labour and revised annually will be applicable in case the Elias Motsoaledi Local Municipality do not have a set rate for the Locals and EPWP Projects. When Government Gazette becomes applicable, the rate will change when the new rates become gazetted by the Minister of Labour

5.2.1.3 Tasks established by the contractor must be such that:

- the average worker completes 5 tasks per week in 40 hours or less; and
- the weakest worker completes 5 tasks per week in 55 hours or less.

5.2.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 5.2.1.3.

5.2.1.5 The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that has less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those that are not in receipt of any social security pension income

5.2.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 55 % women;
- b) 55% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

5.3 Specific provisions pertaining to SANS 1914-5

5.3.1 Definitions

Targeted labour: Unemployed persons who are employed as local labour on the project.

5.3.2 Contract participation goals

5.3.2.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

5.3.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

5.3.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

5.3.4 Variations to SANS 1914-5

5.3.4.1 The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value-added tax or sales tax which the law requires the employer to pay the contractor.

5.3.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

5.3.5 Training of targeted labour

5.3.5.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

5.3.5.2 The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor,

must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

- 5.3.5.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026.
- 5.3.5.4 The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.
- 5.3.5.5 The contractor shall do nothing to dissuade targeted labour from participating in training programmes.
- 5.3.5.6 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 5.3.5.1 to 5.3.5.5 above.
- 5.3.5.7 Proof of compliance with the requirements of 5.3.5.1 to 5.3.5.5 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

PART B: AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATIONS**B1 PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

In certain clauses in the standard, standardized and particular specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains the necessary additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the relevant clause or payment item in the standard specification.

The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

SECTION 1100: DEFINITION AND TERMS

*In all cases where “**Directorate Transport Planning**” appears in the text or in drawings contained in this document it shall be read as “ELIAS MOTSOLEDI LOCAL MUNICIPALITY”.*

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS**B1202 SERVICES**

DELETE AND REPLACE THE WORDS :

“Clause 15 of the general conditions of contract” *in the first sentence of the eleventh paragraph* with “Clause 5.6 of the General Conditions of Contract for construction works third Edition 2015 edition.”

B1205 WORKMANSHIP AND QUALITY CONTROL

ADD THE FOLLOWING :

“Quality control (Scheme 1) as detailed in Section 8200 will be used for determining the acceptance levels with respect to the properties of the materials and workmanship executed by the contractor.”

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

DELETE THE ENTIRE CONTENTS OF THE FIRST PARAGRAPH AND THE FOLLOWING WORDS IN THE FIRST SENTENCE OF THE SIXTH PARAGRAPH:

“and of clause 14 of the general conditions of contract.”

ADD THE FOLLOWING:

The contractor will be responsible for verifying all dimensions of existing structures before setting out the works.

B1209 PAYMENT

AMEND SUB CLAUSE (E) MATERIALS ON SITE BY DELETING AND REPLACING THE WORDS:

“Clause 52 of the general conditions of contract” *IN THE FIRST SENTENCE OF THE FIRST PARAGRAPH WITH:* “Clause 6.10 of the General Conditions of Contract for construction works third Edition 2015 edition.”

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

DELETE AND REPLACE THE WORDS IN THE FIRST PARAGRAPH :

“Clause 54 of the general conditions of contract” *in the fourth line of the first sentence with:* “Clause 5.14 of the General Conditions of Contract for construction works third Edition 2015 edition.”

B1212 ALTERNATIVE DESIGNS AND OFFERS

ADD THE FOLLOWING TO THE END OF SUB CLAUSE (M) :

"The provision for contract price adjustment in the original Bid summary may not, under any circumstances, be altered in an alternative Bid"

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

DELETE AND REPLACE THE WORDS IN THE FIRST PARAGRAPH:

“Clause 45 of the General Conditions of Contract” *IN THE FIRST LINE OF THE FIRST SENTENCE WITH:* “Clause 5.12 of the General Conditions of Contract for construction works third Edition 2015 edition.

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

“Method (I) (Rainfall formula) shall be used on this contract.
The average rainfall of the area is 450.5 mm/year.

B1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF

NEW WORK ON TOP OF COMPLETED IS COMMENCED

DELETE AND REPLACE THE WORDS IN THE FIRST PARAGRAPH :

“Clause 35 of the general conditions of contract” *IN THE SECOND LINE OF THE FIRST SENTENCE WITH:*
“Clause 8.2 of the General Conditions of Contract for construction works third Edition 2015 edition.”

B1224 THE HANDING-OVER OF THE ROAD RESERVE

ADD THE FOLLOWING:

“The full extent of the road reserve will be handed over to the Contractor at the beginning of the contract. The Contractor shall be responsible for the maintenance along this portion of the road until completion of the contract

B1229 SABS CEMENT SPECIFICATIONS

REPLACE ALL PARAGRAPHS WITH THE FOLLOWING:

“The standard cement specifications SABS 471, SABS 626, SABS 831 and SABS 1466 have been withdrawn and are replaced by the new *SANS 50197-1 and -2: Common cements*, and *SANS 50413-1 and -2: Masonry cement*. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications. The following summary table shall apply:

Old product nomenclature	Typical new product nomenclature	
	Cement type	Cement strength class
OPC	CEM I	32,5
	CEM I	32,5R
RHC	CEM I	42,5
	CEM I	42,5R
LASRC	No provision made	No provision made

PC15SL	CEM II/A-S	32,5
	CEM II/A-S	32,5R
	CEM II/A-S	42,5
PC15FA	CEM II/A-V	32,5
	CEM II/A-V	32,5R
	CEM II/A-W	32,5
	CEM II/A-W	32,5R
RH15FA	CEM II/A-V	42,5
	CEM II/A-V	42,5R
	CEM II/A-W	42,5
	CEM II/A-W	42,5R
PBFC	CEM III/A	32,5
	CEM III/A	32,5R
PFAC	CEM II/B-V	32,5
	CEM II/B-W	32,5

RH30SL	CEM II/B-S	32,5R
	CEM II/B-S	42,5
RH40SL	CEM III/A	32,5R
	CEM III/A	42,5

CEM I 32,5, CEM II A-S 32,5, CEM II/A-V 32,5, or CEM III A may be used for the manufacture of reinforced concrete members.”

ADD THE FOLLOWING NEW SPECIFICATIONS:

“B1230 ENVIRONMENTAL IMPACT CONTROL

Respect for the environment is an important aspect of this contract. The environmental control of the site shall be governed by the Environmental Management Plan (EMP) included in Particular Specification C3.3 of this document, which provides, inter alia for:

- (a) The Contractor must allow for the satisfactory combating of dust and noise nuisance throughout the contract length during construction.
- (b) The Contractor must make provision for the prevention of excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not, under any circumstances be allowed.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.
- (f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed authorized disposal facilities.
- (g) Control of invader species of plants.
- (h) Clearing shall be limited to the road prism and, where applicable, detours, which shall be sited in consultation with the Engineer and the local communities.

No separate payment will be made for observing these requirements as it is deemed to be included in the amount Bided for Item 13.01(c) but any avoidable non-compliance with these rules may be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item.”

“B1231 WORKMEN’S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen’s Compensation Act. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act.

The manner in which Workmen’s Compensation shall be handled shall be resolved by the Contractor at the commencement of the contract.”

“B1232 CARE OF WORKS, DAMAGE, INJURY AND INSURANCE

Compliance with Road Traffic Act:

When a service necessitates vehicles or plant travelling or working on a public road the following shall apply:

- The vehicles and plant shall be licensed in terms of the National Road Traffic Act 1996 (Act No. 93 of 1996) as amended.
- Every driver and operator of a vehicle or an item of plant shall be in possession of a valid permit in respect of the class of vehicle or item of plant he is driving or operating.

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Engineer or by any act, regulation or statutory authority in order to minimize the danger and inconvenience caused to vehicle and pedestrian traffic.

The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Engineer against any claims, damages and / or costs that may arise in this regard.”

SECTION 1300 : GENERAL REQUIREMENTS AND PROVISIONS

B1303 PAYMENT

ADD THE FOLLOWING AT THE END OF ITEM 13.01(1).

"..... and provided the Contractor has fulfilled his obligations as far as the Engineer's office, laboratory and housing accommodation is concerned".

ADD THE FOLLOWING NEW PAY ITEMS:

ITEM	UNIT
"B13.02 <u>Provision for a Community Liaison Officer</u>	
a) Provisional sum for the payment of the Community Liaison Officer and PSC Members	P Sum
b) Handling cost and profit in respect of sub-item (a) above (state % and extent as an amount)	Percentage (%)

The provisional amount for sub-items B13.02 (b)(I) allows for the remuneration of the community liaison officer. The reimbursement shall be a fixed amount per month to be instructed by the Engineer.

The percentage Bided in pay items B13.02(a)(II), (IV) and (b) (II) shall be applied to the amount expended under pay items (a)(I), (a)(III) and (b)(I) respectively to generate an amount that covers all the monies required by the contractor for managing costs that may arise from the payment, including the contractor's profit and overheads."

ITEM	UNIT
"B13.03 <u>Provision for accredited training</u>	
a) Generic skills	P Sum
b) Entrepreneurial skills	P Sum
c) Handling cost and profit in respect of sub-item (a) and (b) above (state % and extend as an amount)	Percentage (%)
d) Training venue (only if required)	L Sum

The percentage Bided in pay items B13.03 (c) and (d) shall be applied to the amount expended under pay items (a) and (b) respectively to generate an amount that covers all the monies required by the contractor for managing costs that may arise from the payment, including the contractor's profit and overheads."

ITEM	UNIT
"B13.04 <u>Contract name board:</u>	
(a) Supply and erect one contract name board	Lump Sum

The Bided lump sum shall be for full compensation for providing two contractor's name board as detailed on the drawings, erected at appropriate position to be indicated by the engineer. The rate shall include all materials, manufacturing, delivery to site and erection of the board and all materials, plant and labour required for the erection of the board."

ITEM

UNIT

“B13.05 Relocation of existing services:

(a) Excavating material within the following depth ranges below ground level for the exposing of/or searching for services:

- | | | |
|-----|-------------------|-------------------------------|
| (i) | 0m to 2m: | |
| | (1) soft material | cubic metre (m ³) |
| | (2) hard material | cubic metre (m ³) |

- (b) Extra over item B13.05(a) for excavation by means of hand tools such as picks, crowbars and pneumatic tools or mechanical breakers in close vicinity of services where no machine excavation is permitted:

- | | |
|-------------------|-------------------------------|
| (1) soft material | cubic metre (m ³) |
| (2) hard material | cubic metre (m ³) |

Measurement and payment for excavations shall be as specified for item 22.01 in the standard specifications.

(c) Backfilling

- | | | |
|------|----------------------------------|-------------------------------|
| (i) | Using the excavated material | cubic metre (m ³) |
| (ii) | Using imported selected material | cubic metre (m ³) |

(d) Relocation of services

- | | | |
|------|--|----------------|
| (i) | Provisional sum for the relocation of existing services | Prov. Sum |
| (ii) | Handling costs and profit in respect of sub-item B13.05(d) | Percentage (%) |

The provisional sum provided shall cover the cost of any existing services that might need to be relocated or extended or any work to existing services as ordered in writing by the Engineer. It is the contractors responsibility to identified services that will interact with the construction work. The contractor will be responsible to do the application and negotiation on the relocation of the sifting of services.

ITEM

UNIT

“B13.06 Occupational Health & Safety:

“Provision for the cost related to the Occupational Health and Safety Act, 85 of 1993, and the relevant Regulations:

- | | | |
|-----|--|-------|
| (a) | Preparation of a Health and Safety Plan | L Sum |
| (b) | Compilation of a risk assessment prior to construction | L Sum |
| (c) | Health and Safety Induction Training of employees | L Sum |
| (d) | Compilation and keeping up with date the Health & Safety file which shall include all documentation required in terms of the Act. Implementation of the health and Safety plan over the entire construction period | Month |
| (e) | Provisional sum for the appointment of an independent Occupational Health & Safety Agent to perform safety audits on behalf of the client and all other requirements as required by the Act. | P Sum |

(f)	Special Information Signs	P Sum
(g)	Handling costs and profit in respect of sub-item B13.06(e) and (f) above	Percentage (%)

The Bided sums shall include full compensation for providing the above services as required from the Occupational Health and Safety Act. The rate shall include all related costs incurred by the Act, remuneration to personnel, trainers, etc. and equipment required for the execution of the required services as depicted by the Act. The Bided amount for items a, b and c shall only be paid on the successful completion of each task as approved by the client or his Agent. The Bided amount for item d shall be paid on a monthly basis.

The amount under (e) shall be paid within thirty (30) days of receiving a invoice from the independent Occupational Health & Safety Agent appointed by the client.

Measurement and payment in respect of the provisional sum item shall be made in accordance with the provisions of the general conditions of contract."

<u>ITEM</u>	<u>UNIT</u>
"B13.07 <u>Confirmation of survey data and benchmarks</u>	
(a) Provisional Sum for the confirmation and setting out of benchmarks and survey data as required by the Engineer	Prov. Sum
(b) Handling costs and profit in respect of sub-item B13.07(a)	Percentage (%)

The provisional sum shall cover all costs in verifying, setting out and confirming existing benchmark PI's etc as ordered in writing by the engineer."

SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL**B1402 OFFICES AND LABORATORIES****(a) General**

ADD THE FOLLOWING NEW PARAGRAPH AT THE END OF THIS SUB-CLAUSE:

"The offices, laboratory and stores shall, unless otherwise agreed, be erected in close proximity to the contractor's offices and laboratory, and the entire area shall be fenced with security fencing and provided with a gate. The contractor shall take all reasonable precautions to prevent unauthorized entry to the Engineer's offices and laboratories and to ensure the general security of the offices and laboratories."

ADD THE FOLLOWING NEW SUB CLAUSE:

"1402 (i) Survey equipment

The contractor shall provide and make available at all times for the exclusive use of the Engineer and his staff the necessary survey equipment comprising of the following:

- a) 1 x tachometer capable of reading to 20 seconds of arc with tripod,
- b) 1 x engineer's automatic level with tripod,
- c) 2 x tachometer staff with staffs bubble,
- d) 1 x level staff with staff bubble,
- e) 2 x ranging rods,
- f) 1 x builder's spirit level of length 900mm,
- g) 1 x steel tape of length 30m,
- h) 1 x pocket tape of length 3m,
- i) 1 x 6V, 8-cell torch with spare batteries, and
- j) all steel and wood pegs, concrete, hammers, picks, etc., that the Engineer may require.

The contractor shall provide proof, at the start of the Contract, that the tachometer and level have recently been serviced by an acceptable institution and shall, throughout the Contract, service and maintain all survey equipment and he shall insure same and indemnify the Employer and the Engineer against all claims for loss, breakage or theft of such equipment.

The tachometer and tachometer staffs may be shared by arrangement between the Contractor and the Engineer, but the other instruments shall be provided for the exclusive use of the Engineer.

On completion of the Works, the equipment will be returned to the Contractor who shall remove it from the site.

Two suitable, trained and experienced workmen to be used as survey assistants and two suitable labourers to assist with control testing shall be made available to the Engineer during the working hours as and when required. As far as practical the same assistants and labourers, shall be allocated to the Engineer for the full duration of construction."

ADD THE FOLLOWING NEW SUB-ITEM:

<u>ITEM</u>	<u>UNIT</u>
"B14.02 (g) i) Survey Equipment needed by the Engineer	P Sum
ii) Handling cost and profit in respect of sub-item B14.02(g)(i)	Percentage (%)

The prime cost sum shall be expended in accordance with the provisions of the general conditions of contract. Payment to the Engineers shall be made within fourteen (14) days after such order has been given by the engineer. The contractor shall provide detailed proof of payment before payment shall be certified to the contractor.

The Bided percentage in item B14.02 (g) is an extra over percentage on the amount actually spent under

sub-item B14.02 (g) (i) which shall include full compensation for the handling costs and profit of the contractor."

B1406 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING NEW SUB-ITEM:

<u>ITEM</u>		<u>UNIT</u>
"B14.03 (b) (ix) 1.	Provision of cellular telephones, computers, printing	P Sum
2.	Provisional sum for the costs of cellular calls and other charges	P Sum
3.	Handling cost and profit in respect of sub-item B14.03(b)(ix) 1 and 2	Percentage (%)

The prime cost sum shall be expended in accordance with the provisions of the general conditions of contract. Payment to the Engineers shall be made within fourteen (14) days after such order has been given by the engineer. The contractor shall provide detailed proof of payment before payment shall be certified to the contractor.

The Bided percentage in item B14.03 (b) (ix)(3) is an extra over percentage on the amount actually spent under sub-item B14.03 (b) (ix)(1, 2) which shall include full compensation for the handling costs and profit of the contractor."

SECTION 1500 : ACCOMMODATION OF TRAFFIC**B1501 SCOPE**

ADD TO CLAUSE 1501 THE FOLLOWING :

“The scope of this section shall also include the preparation and submission to the Engineer for approval of a traffic management plan. The traffic management plan shall demonstrate how the Contractor intends accommodating and controlling traffic through the site. The plan must incorporate all the requirements of the specifications in respect of the accommodation of traffic, including the traffic control devices and the personnel involved. A traffic safety officer shall be specifically named in the plan together with 24 hr contact details. Copies of the plan shall be made available to the Engineer, the Employer, Local Authorities, the Police and Emergency Services.

The accommodation of traffic shall generally be undertaken in the following manner:

- (a) Via gravel diversions, where practical in terms of space and the terrain.
- (b) By dealing with traffic under construction where no diversions are possible.
- (c) By diverting traffic along the existing road where the route is being realigned.”

B1502 GENERAL REQUIREMENTS**(b) Providing Temporary Deviations**

ADD TO THE SUB-CLAUSE THE FOLLOWING:

“The contractor shall keep the provincial traffic police, the municipal traffic departments and the engineer fully informed with regard to any changes in the normal traffic flow and obtain their approval for these changes.

During the non-working hours, all unnecessary obstructions to the traffic shall be removed and all signs no longer applicable to the situation shall be removed or effectively covered.

It is a condition of this contract that not more than 10 km of deviation should be open to public traffic at any one time, and that not more than three separate deviations should be open at any one time. No additional payments will be made where situations arise that the contractor has deviations crossing over the roadway under construction.”

(i) Traffic Safety Officer

ADD TO SUB-CLAUSE 1502(I) THE FOLLOWING :

“The Contractor shall submit a Curriculum Vitae of the candidate to the Engineer for approval before the Traffic Safety Officer is appointed. The Traffic Safety Officer shall be made available to discuss road safety and traffic accommodation matters whenever required by the Engineer.”

REPLACE SUB-CLAUSE 1502(I), SUB-SUB-CLAUSES (ii) AND (iii) WITH THE FOLLOWING:

- (ii) “Record on neat and dimensioned sketches and submit to the Engineer the position and sign reference number where applicable of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each unit shall be adequately referenced to identifiable permanent features located along the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the Traffic Safety Officer, and shall be signed by the Traffic Safety Officer before being submitted to the Engineer.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Engineer. This shall include the recording of the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever

they are used.”

- (iii) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice each day by 9:30 and by 16:30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the Engineer such record sheets by 10:00 and by 17:00 each day. The traffic Safety Officer shall keep a duplicate book for this specific purpose.

The Traffic Safety Officer shall also submit to the Engineer by 10:00 each morning, a record of all matters pertinent to site safety and traffic accommodation throughout the site of works the previous day. He shall also record the daily labour returns of flagmen, stop/go and traffic signal control men employed.

The traffic safety officer shall be equipped with a cellular telephone and shall have a vehicle and 3 labourers at his disposal 24 hrs a day and he shall be directly answerable to the Contractor's Site Agent. The Traffic Safety vehicle shall be a truck with a capacity of 5 tons and shall be equipped with a high visibility rear panel as shown on Figure 24 of Road Signs Note No.13. The traffic Safety Officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the Contract. The provision of the Road Safety Vehicle, driver, three labourers and the cost of the cellular telephone shall be deemed to be included in the rates Bided for the Contractor's establishment on site.”

ADD TO SUB-CLAUSE 1502(I) THE FOLLOWING NEW SUB-SUB-CLAUSES:

- “(ix) Ensure that all obstructions, soil and gravel heaps, related to the Contractors activities be removed before nightfall where applicable and as instructed by the Engineer and that the roads are safe for night traffic.
- (x) The Traffic Safety Officer shall, in addition to the duties listed in Clause 1502 (i), also be responsible for removal of broken down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, and shall be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.”

ADD THE FOLLOWING NEW SUB-CLAUSES TO CLAUSE 1502 :

“(j) Public traffic

The contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the road. All halting of traffic will require the prior approval of the engineer and must be pre-arranged with the appropriate traffic authorities.

In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

(k) Failure to comply with provisions

The failure or refusal of the Contractor to provide barricades or traffic signs at the proper time, or to take the necessary precautions for the safety and convenience of public traffic as specified or instructed by the Engineer, shall be sufficient cause for the suspension of all work under this Contract without any additional compensation to the Contractor until the required accommodation of traffic has been completed to the satisfaction of the Engineer.

(l) Access to work area

Construction traffic will only be permitted to enter or leave the work area at points approved by the Engineer and as clearly indicated on the traffic management plans. When any access point is in use, flagmen shall be provided for each such point. At least two flagmen shall be stationed at the access point to control the movement of construction traffic, and to warn public traffic on both lanes of the existing road.

It is not the purpose of these flagmen to stop public traffic flow.

(m) Extension of time for completion

Accommodation of public traffic on the works or any delays caused thereby, as well as any suspensions due to failure by the Contractor to comply with the provisions for the accommodation of traffic, will not be regarded as special circumstances for an extension of time."

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

REPLACE THE FIRST SENTENCE OF THE FIRST PARAGRAPH OF CLAUSE 1503 WITH THE FOLLOWING :

"The Contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the South African Road Traffic Signs Manual in conjunction with the latest edition of Road Signs Note No.13 Road works, and remove them when no longer required. It shall be incumbent upon the Contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly, and he shall replace any that have been damaged, lost, stolen or obliterated at his own cost."

REPLACE THE THIRD PARAGRAPH OF CLAUSE 1503 WITH THE FOLLOWING :

"The type of construction, spacing and placement of traffic-control devices shall be in accordance with the latest edition of Road Signs Note No.13, Road works, these special provisions, the drawings and the South African Road Signs Manual. The recommended arrangements of the traffic control devices illustrated in Appendices 1 to 6 of Road Signs Note No.13 and/or drawings shall not be departed from without prior approval of the Engineer. Typical arrangements expected to be used in the Contract are given on the Bid drawings.

However, this shall not absolve the Contractor of his obligations in preparing traffic management plans as per this Project Specification.

The details shown for spacing and placement of traffic-control facilities may however, be revised at the discretion of the Engineer where deemed necessary to accommodate local site geometry and traffic conditions."

(b) Road signs and barricades

ADD TO SUB-CLAUSE 1503(B) THE FOLLOWING :

"The Contractor shall be responsible for the protection and maintenance of all signs, and shall at his own cost replace any that have been damaged, or lost, or stolen.

All temporary road signs shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included for in the Bided rates for the various types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the Contract are those designated in Road Signs Note No.13.

The covering of permanent road signs, if applicable, shall be by utilising a hessian bag, which shall be pulled over the sign in the form of a hood and fastened to the sign posts. Plastic bags or other materials and fastening by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be deemed to be covered by the Bided rates of items B15.01 and 15.10.

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regards to signposting are met and written approval of the Engineer is obtained. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to

allow for the immediate replacement of damaged or missing items, in any case, within three hours of instructions having been given by the Engineer. Delineators shall be of the flexible plastic reversible variety and not of the rigid metal variety.

Should the Contractor fail to respond to an instruction to re-erect a road sign within the designated time or fail to comply to the requirements, the work on that section will be suspended without any compensation to the Contractor."

(c) Channelization devices and barricades

ADD TO SUB-CLAUSE 1503(C) THE FOLLOWING:

"Delineators shall be of plastic and shall be capable of withstanding winds caused by passing traffic in typical working conditions without falling over. To achieve this, the base shall be ballasted using sand bags.

Traffic cones manufactured in a fluorescent red-orange or red plastic material shall be used only at short term lane deviations during daylight. Cones used on all deviations shall be 750 mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

All traffic cones and road signs shall be kept clean and visible at all times. All bituminous or other foreign material shall be removed by the Contractor, or the dirty traffic cones and road signs shall be replaced with new ones at the cost of the Contractor, as directed by and to the satisfaction of the Engineer.

The use of steel drums as Channelization devices will not be allowed on this Contract unless instructed by the Engineer. Channelization shall be effected by the use of delineators or cones as detailed in Road Signs Note No. 13 - Road works."

(e) Warning devices

ADD TO SUB-CLAUSE 1503(E) THE FOLLOWING :

"All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant shall obtain a clearance permit from the Engineer before being allowed onto the site.

Rotating lights shall have an amber lens of minimum height of 200 mm and shall be mounted to ensure clear visibility from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDV's and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be clearly visible and operated continuously while the vehicles are maneuvering in or out of traffic or are travelling or parked alongside roads open to public traffic.

Rotating lights and the "Construction Vehicle" signs on the Contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The Contractor shall apply and maintain lights together with temporary mounting brackets, to the approval of the Engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site.

The Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the Engineer, ineffective shall be immediately replaced by the Contractor."

ADD THE FOLLOWING NEW SUB-CLAUSES TO CLAUSE 1503 :

“(g) Other signs and facilities

The Engineer may instruct the Contractor to provide any other road sign, reflective tape, etc not measured in standard pay items. The road signs shall conform with the requirements of the South African Traffic Signs Manual, Road Note 13 or specification provided by the Engineer.

“(h) High visibility Safety jackets

The Contractor will be responsible to ensure that all construction workers, staff of the Engineer and visitors shall wear high visibility safety jackets when moving around on site. The jackets shall be of an approved type, orange in Colour and shall be to the approval of the Engineer. The Contractor shall provide the Engineer with six jackets. No separate payment will be made for the jackets.”

B1511 MAINTENANCE OF GRAVEL TEMPORARY DEVIATIONS AND EXISTING GRAVEL ROADS USED AS TEMPORARY DEVIATIONS

ADD TO CLAUSE 1511 THE FOLLOWING :

“Where applicable, all references to gravel roads and/or diversions shall also include gravel shoulders used as diversions.”

B1517 MEASUREMENT AND PAYMENT

AMEND PAYMENTS AS FOLLOW :

<u>ITEM</u>	<u>UNIT</u>
B15.01 Accommodating traffic and maintaining temporary deviations.	(as specified)

ADD THE FOLLOWING:

“The Bided rate shall also include for the preparation of traffic management plans and their submission to the Engineer for approval.

The Bided rate shall also include for all costs associated with constructing the road under traffic and for complying with the restricted working conditions as per Clause SCC 13.1 of the Special Conditions of Contract.”

<u>ITEM</u>	<u>UNIT</u>
B15.04 Relocation of traffic control facilities	Lump sum

ADD TO THE PAYMENT ITEM 15.04 THE FOLLOWING :

“The Bided lump sum shall cover all costs regardless of how many times the traffic control facilities are relocated. The Contractor can anticipate frequent relocations due to the nature of the site and restrictions on working space. Details of how often traffic control facilities need to be moved should be set out in the traffic management plans.

Payment of this item will be made on a monthly basis over the duration of the Contract, starting when traffic control measures are first implemented. The Bided lump sum shall be divided by the construction period to obtain a monthly claim.”

SECTION 1600 : OVERHAUL

B1602 DEFINITIONS

(a) Overhaul material

ADD TO SUB-CLAUSE 1602(A) THE FOLLOWING :

“Overhaul is not measured separately for payment for materials obtained from commercial sources.”

SECTION 1700 : CLEARING AND GRUBBING**B1704 MEASUREMENT AND PAYMENT****ITEM****UNIT**

B17.01 Clearing and grubbing hectare (ha)

ADD TO PAYMENT ITEM 17.01 THE FOLLOWING :

“Clearing and grubbing for the construction of camp sites shall not be measured separately. Payment shall be regarded as included in the rates Bided for the applicable items for the above-mentioned work.

Within the road reserves clearing and grubbing will only be measured and paid for where required for road works.”

“ITEM**UNIT**

B17.01 Clearing and grubbing of:

- | | |
|---|--------------|
| a) Normal areas: | |
| i) Within the road reserve | hectare (ha) |
| ii) In borrow pits | hectare (ha) |
| b) Existing fill embankments with slopes steeper than 1:4 | hectare (ha) |

Measurement and payment for sub-items (a) and (b) shall be as specified for item B17.01 of the standard specifications. Where distinction is made for clearing and grubbing existing fill embankments with slopes steeper than 1:4 (vertical : horizontal), payment shall be made under item B17.01.”

SECTION 1800 : DAYWORKS**B1801 Day works**

Day works are specified in C3.3 Particular Specification, Section DWK: Day works

B1802 Measurement and Payment

ADD THE FOLLOWING PAYMENT ITEMS:

<u>ITEM</u>	<u>UNIT</u>
B18.00 DAYWORK SCHEDULE	
B18.01 Laborers:	
(a) Unskilled	hr
(b) Semi-skilled	hr
(c) Skilled	hr
B18.02 Foreman	hr
B18.03 Tipper trucks:	
(a) 3 – 5 ton	hr
(b) 5,1 – 10 ton	hr
B18.04 Loader (0.5 m ³ bucket)	hr
B18.05 Excavator (Cat 350 or similar)	hr
B18.06 Grader (Cat 140G or similar)	hr
B18.07 Compaction Rollers:	
(i) Vibratory roller	hr
(ii) Tamping roller	hr
(iii) Grid roller	hr
B18.08 Hand Controlled Compactors	
(i) Pedestrian roller (Bomag BW90 or similar)	hr
(ii) Vibrating plate	hr
(iii) Rammers (whackers)	hr
B18.09 Back loader (Cat 416D or similar)	hr
B18.10 Water truck (minimum 10 000 liter capacity)	hr
B18.11 Dozer (D7 or similar)	hr
B18.12 Flatbed truck	km
B18.13 LDV (1800cc minimum)	km
B18.14 Materials acquired under day works:	
(a) Provisional sum for materials acquired under days works	P Sum
(b) Handling costs and profit in respect of sub-item 18.16 (a) above	%

The payment of Day works will be dealt with as specified in C3.3 Particular Specification, Section DWK: Day works.

SECTION 2100 : DRAINS**B2104 SUBSOIL DRAINAGE****(a) Materials****(i) Pipes**

ADD TO SUB-CLAUSE 2104(A)(I) THE FOLLOWING :

“Perforated or slotted un-plasticized PVC pipes shall be used for subsurface drainage.”

(ii) Natural Permeable Material

ADD TO SUB-CLAUSE 2104(A)(II) THE FOLLOWING :

“The crushed stone shall be coarse graded (19 mm nominal size) and shall conform to the following requirements:

Percentage passing through a 26,5 mm sieve : 100 %.

Percentage passing through a 19,0 mm sieve : 60-85 %.”

ITEM**UNIT**

ADD TO CLAUSE 2100 THE FOLLOWING :

“The subsoil drainage shall be installed before construction of any layer works. Construction shall only commence after final approval of subsoil drains by the Engineer.”

B21.20 Galvanised wire mesh 250 x 250 mm, at the outlets
of subsoil drainage systems. Mesh 10 mm x 2,5 mm
wire diameter

Number (No)

The unit of measurement shall be the number of 250 mm x 250 mm pieces of wire mesh, with a 10 mm x 10 mm spacing and 2,5 mm wire diameter built into the subsurface drain outlet structure as shown on the drawings.

The Bided rate shall include for procuring, furnishing and installing the material, cutting, waste and keeping the mesh in the pipe opening clean during installation.

ITEM**UNIT**

B21.21 Subsoil drainage markers

Number (No)

Measurement and payment shall be as specified for item 22.24 in the standard specifications.”

SECTION 2200 : PREFABRICATED CULVERTS**B2201 SCOPE**

ADD TO CLAUSE 2201 THE FOLLOWING :

"It should be noted that the information given on the drawings may have to be altered due to actual site conditions. Construction shall only commence after final approval of information on the drawings.

Precast units shall only be ordered after actual measurements of length on site and not from lengths stated in the schedule of quantities.

The levels given for culverts on the drawings are subject to confirmation on site, and the contractor shall submit all levels to the engineer for confirmation before he commences with construction work for each culvert.

This section also covers work associated with the removal of existing pipes and their inlet and outlet structures. Due to the nature of the project, the Contractor can expect that works associated with the installation of pipe culverts will have to be carried out under traffic."

B2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS**B.2210 (b) (i) cast in situ invert slabs**

Replace with the following:

"In accordance with the drawings, transverse construction joints are required in cast in situ concrete invert slabs for portal culverts. In addition, longitudinal construction joints as shown on the drawings between the invert slabs of each of the barrels of multiple culverts are required. Allowance for measurement and payment for a Class F1 surface finish and soft board in these joints is made in the bill of quantities. No payment shall be made for formwork on the outside edges of invert slabs (closest to excavated face). All culverts (precast as well as in situ) shall be constructed with an in situ reinforced concrete floor laid on a 75mm concrete screed".

Delete sub clause B.2210 (b) (ii) : "Prefabricated floor slabs."

B2211 BACKFILLING OF PREFABRICATED CULVERTS

ADD TO THE FOURTH PARAGRAPH OF CLAUSE 2211 THE FOLLOWING:

"Where backfilling is done in the upper layers of the road formation, the quality and strength of the backfill material shall at least match that of the surrounding layers."

B2218 MEASUREMENT AND PAYMENT

Add the following:

<u>"ITEM</u>	<u>UNIT</u>
B22.01(c) Extra over sub item B22.01(a) for excavation by hand using hand tools	cubic metre (m3)

Measurement shall be as specified for pay item 22.01 of the standard specifications.

The Bided rate shall include full compensation for carrying out the excavations by hand where circumstances prevent the use of mechanical excavators.

ITEM**UNIT**

B22.07(f) Formwork for joints in cast in situ concrete
invert slabs

- | | |
|---|-------------------|
| (i) Transverse construction joints (type indicated) | square metre (m2) |
| (ii) Longitudinal joints (as per drawing) | metre (m) |

Measurement and payment shall be as specified in item 22.07 of the standard specifications with the exception that formwork for construction joints in cast in situ invert slabs in trench conditions as indicated on the drawings, shall be measured and paid for in accordance with section 6200 of the standard specifications. No payment shall be made for formwork to the outside edges of invert slabs (closest to excavated face)."

ITEM**UNIT**

B22.08 Concrete backfill for culverts cubic metre (m3)

Add the following to this item:

"In addition to the requirements for measuring concrete backfill to rectangular culverts as specified for item 22.08, the following shall apply:

Concrete backfill shall be measured to the actual dimensions of the precast units, i.e. actual volumes between ribs and haunches shall be taken into account. For the purpose of calculating concrete backfill quantities, the horizontal dimensions of the concrete backfill on the outside of the culvert(s) (closest to excavated face), shall be taken as 100mm maximum irrespective of what type or make of precast portal is used or the actual width of the excavation.

The width of the concrete backfill between portals in the case of multiple culverts, shall be taken as 80mm for precast units with a leg height of 1500mm and 100mm for precast units with a leg height exceeding 1500mm. The vertical dimensions, in both cases, shall be equal to the height of the portal."

AMEND PAYMENT ITEM 22.12 TO READ AS FOLLOWS:

ITEM**UNIT**

"B22.12 Removing existing concrete, brickwork and stonework

- | | |
|--|-------------------------------|
| (a) Plain concrete | Cubic metre (m ³) |
| (b) Reinforced concrete | Cubic metre (m ³) |
| (c) Brickwork | Cubic metre (m ³) |
| (d) Stone Masonry walls and grouted stone pitching | Cubic metre (m ³) |
| (e) General stone pitching | Cubic metre (m ³) |

ADD TO THE FIRST PARAGRAPH, WHICH DESCRIBES THE UNIT OF MEASUREMENT, THE WORDS: "brickwork and stonework" AFTER THE WORD: "concrete".

PARAGRAPHS 2, 3 AND 4 OF PAYMENT ITEM 22.12 IN THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS ITEM B 22.12.

Add the following new items:

ITEM	UNIT
B22.29 Tie bars for joining in situ concrete invert slabs to inlet and outlet structures, as indicated on the drawings (Type, diameter and length indicated)	Number (No.)
The unit of measurement shall be the number of tie bars installed as specified and indicated on the drawings.	
The Bided rate shall include full compensation for supply and installation of the tie bars.	

ITEM	UNIT
B22.30 a) Preparation and compaction of in-situ bedding material to 90% of Mod. AASHTO density(depth indicated)	cubic metre (m3)
b) Extra over sub-item B22.30(a) for compaction to 93% of Mod. AASHTO density (depth indicate)	cubic metre (m3)
The unit of measurement shall be the cubic metre of material ripped and compacted as specified.	
The Bided rate shall include full compensation for the ripping of the in-situ material to the specified width and depth, wetting of the material to such an extent that the specified density can be achieved.	

ITEM	UNIT
B22.31 Dewatering and keeping dry of culvert excavations	Number (No.)
The unit of measurement shall be the number of culverts constructed. The Bided rate shall be full compensation for dewatering and keeping dry of the culvert excavations until the backfill is completed.	
Payment shall be as follows:	
(i) 80% of the payment shall be made after the barrel of the culvert has been constructed and backfilled.	
(ii) Remaining 20% of the payment shall be made after the wing walls have been constructed and backfilled.	

ITEM	UNIT
B22.32 Cutting of concrete pipes	
a) Diameter indicated	Number (No.)
The unit of measurement shall be the number of pipes that have been cut. The Bided rate shall be full compensation for the cutting, by means of mechanical saw (angle grinder) and finishing off of the pipes for the specific angle of skew at which the pipes must be laid.	
Cutting of pipes shall only be paid for if the headwall of the wing walls are at such a skew angle in respect to the center line of the pipes that cutting is required and where non-standard lengths are required. The maximum skew angle at which pipes are allowed to be cut shall be 30 degrees and the minimum length	

of pipe, measured along the shortest side, shall be 1,5m.

Classification of soft/hard materials as well as all quantities shall be agreed upon and finalised as the work progresses.”

SECTION 2300 : CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS

B2304 CONSTRUCTION

(e) Cast in-situ Kerbs and channels

ADD TO SUB-CLAUSE 2304(E) THE FOLLOWING :

"Where new kerbing and channeling has to be laid in an existing bitumen surface, the surface shall be neatly cut to a straight line with an angle grinder or similar approved means along the edge of the channel. The existing road foundation shall then be carefully removed over the width and depth required to construct the new kerb and channel.

During the construction of the in situ channel, the contractor shall take care not to stain or damage the existing road surface. Any damage, excess over break, undermining or staining shall be repaired by the Contractor at his own expense."

(i) Construction sequence

REPLACE PARAGRAPHS (I), (II), AND (III) WITH THE FOLLOWING:

"In all cases where kerbing, and/or channeling adjoin the asphalt or bituminous surface of road, the kerbing and/or channeling will be constructed prior to any asphalt or bituminous surfacing will take place. The contractor will only be allowed to prime the base prior to the start of the concrete works, no other seal work may commence before the completion of kerbing and/or channeling next to the road surface. Before commencing with the kerbing and/or channeling, the base must be accurately cut to line with a mechanical saw to a minimum depth of 75mm. After excavation the concrete shall then be casted or precast kerbs laid against the base. Any damage to the edge of the base shall be repaired prior to the surfacing of the base.

All material outside the cut line must be removed to the required thickness of concrete before commencing with the casting of the concrete. The bedding of the drain shall thereafter be compacted as described in sub clause 2304(a)(ii).

The contractor shall, therefore take note of areas where concrete drains etc. are to be constructed against the edge of surfacing in order not to lose significant areas of surfacing when saw cutting is undertaken.

No payment shall be made or repair work to the satisfaction of the engineer for damage caused by the cutting/excavation process of the bituminous surface and base layers."

ADD THE FOLLOWING NEW SUB-CLAUSES TO CLAUSE 2304 :

"(I) Shrinkage joints for cast in-situ concrete work.

Unless shown otherwise on the drawings, cast in situ channels shall be provided with shrinkage joints spaced a maximum of 2m apart. Shrinkage joints shall be constructed so that shrinkage cracks are generated at the joints. Sections of channel which have cracked between shrinkage joints shall be removed and replaced by the contractor at his own cost.

(m) Formwork and finish

All visible edges of cast in-situ channels edge beams, kerbs, etc. shall be rounded with a rounding tool."

SECTION 3100 : BORROW MATERIALS**B3102 NEGOTIATIONS WITH OWNERS AND AUTHORITIES**

ADD TO SUB-CLAUSE 3102(A) THE FOLLOWING :

"Arrangements with regard to access to borrow pits and alignment of haul roads shall be made between the contractor and the owners of the land on which the borrow pits are situated as well as the applicable local authorities. The engineer's representative on site shall be present at such negotiations. All costs involved with such negotiations as well as the requirements contained in clause 3102 and clause 1225 of the specifications shall be borne by the contractor except that provision is made herein for compensation to the landowner for land used for borrow areas."

B3103 OBTAINING BORROW MATERIALS**(a) General**

ADD TO SUB-CLAUSE 3103(A) THE FOLLOWING :

"The Contractor shall note that natural materials which meet the requirements for the base and sub-base layers are limited, even when the properties are improved via stabilisation. Therefore, careful selection of materials will be required in the borrow pits. The Contractor shall refer to Section 3200 of the standard specifications with regard to his liabilities in respect of the contamination of good quality materials."

The expropriation and compensation for land from which borrow material is obtained shall be negotiated and paid for by the Contractor. A prime cost is allowed in the schedule of quantities for payment for royalties for land taken up by borrow pits. Cost incurred by the contract will only be disbursed if agreed to and approved by the Engineer."

(c) Use of borrow materials

ADD TO SUB-CLAUSE 3103(C) THE FOLLOWING:

"Compensation to owners and arrangements with owners for taking material from alternative borrow pits proposed by the contractor shall be the contractor's responsibility and entirely at his own expense."

B3104 OPENING AND WORKING BORROW PITS AND HAUL ROADS**(a) Removing topsoil**

ADD TO SUB-CLAUSE 3104(A) THE FOLLOWING:

"The topsoil to be stockpiled shall be placed between the public road the physical borrow pit area so as to provide a temporary visual screen in front of the borrow activities. The topsoil shall not be stockpiled for longer than 6 months, nor shall the stockpile be higher than 2,5m."

(g) Unproclaimed private access roads

ADD TO SUB-CLAUSE 3104(G) THE FOLLOWING:

"The Contractor is responsible for proper maintenance of haul roads in cases where the material from the borrow pit areas has to be transported over secondary, tertiary, private or access roads. At the completion of activities in the borrow pits, the haul roads shall be restored to their original state and to the satisfaction of the Engineer."

Expropriation of borrow pits on private property by the Employer, will include access roads to the borrow pits. However, the Contractor is fully responsible for negotiating details of the right of access to the borrow pits with the private owners as well as for the building, maintenance and later removal of all access roads. No additional payment will be made for this work and full remuneration will be deemed to be included in the Bided rates for the various items where the material is to be used."

B3108 MEASUREMENT AND PAYMENT

CHANGE ITEM 31.01 TO READ AS FOLLOWS:

ITEM**UNIT**

B31.01 Excess overburden :

- | | |
|---|------------------|
| (a) Depth up to and including 0,5m | cubic meter (m3) |
| (b) Depth exceeding 0,5m and up to 1,0m | cubic meter (m3) |

Measurement and payment shall be as specified for item 31.01 of the standard specifications with the abovementioned depth ranges applicable."

ADD THE FOLLOWING NEW ITEMS:

ITEM**UNIT****"B31.04 Compensation to owners:**

- | | |
|--|----------------|
| a. Allow a Prime Cost Sum as compensation to owner/authority for royalties for land used as gravel borrow pits | P Sum |
| b. Handling costs and profit in respect of sub item B31.04(a) above | Percentage (%) |

Payment shall be made in accordance with the stipulations of the general conditions of contract."

SECTION 3300 : MASS EARTHWORKS**B3301 SCOPE**

ADD TO CLAUSE 3301 THE FOLLOWING :

"The Contractor shall note the restricted nature of the earthworks in general, and where the widening of existing cuts and fills are required in particular. No extra over rates for widening of cuts, widening of fills or for working in restricted areas shall be applicable to this Contract."

B3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION**(a) Classes of excavation**

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The excavation of materials from cut or borrow for fills including excavation in layer works of existing roads, shall be classified as follows for purposes of measurement and payment. No distinction will be made between the material from the existing road and other materials in the road reserve:"

ADD THE FOLLOWING :

"Payment items 33.14 and 33.15 will not apply on this Contract."

B3306 CUT AND BORROW**(a) Dimensions of Cuts**

Delete the third paragraph from Clause 3306(a), apart from the first sentence thereof.

ADD THE FOLLOWING :

"Cut and borrow to fill will be measured under Item 33.01. The Contractor shall take note of the nature of the earthworks alongside the existing road. No extra over payments will be made in respect of the nature of the site or due to the dimensions of a particular cutting."

B3307 FILLS**(i) Widening of fills**

IN THE EIGHT PARAGRAPH OF SUB-CLAUSE 3307(I), DELETE THE SENTENCE: "An extra over payment for the widening of existing fills will apply under Item 13.16."

ADD THE FOLLOWING :

"No extra over payments will be made in respect of the nature of the site or due to the dimensions of the fills being widened or constructed."

B3312 MEASUREMENT AND PAYMENT**General directions**

DELETE NOTE: "(3) Work in restricted areas" AND REPLACE WITH THE FOLLOWING :

"It may be necessary for the contractor to work in confined areas but no additional payment will be made for work done in "restricted areas". In certain area the width of the fill material and pavement layers may reduce to zero and the working space may be confined. The method of construction in these confined areas depends on the contractor's constructional plant. However, the contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, and that the rates and amounts Bided will be deemed to include full compensation for all special equipment or construction methods or for any difficulty encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for additional payment be considered on account of such difficulties."

OMIT PAYMENT ITEMS 33.14 AND 33.15

SECTION 3400 : PAVEMENT LAYERS OF GRAVEL MATERIAL**B3402 MATERIALS****(a) General**

DELETE THE FIRST SENTENCE OF THE SIXTH PARAGRAPH AND REPLACE WITH:

"No distinction will be made for payment purposes between materials from the pavement layers of existing roads and other materials from the road reserve, or between cemented and non-cemented material from pavement layers of existing roads."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

ADD TO CLAUSE 3406 THE FOLLOWING:

"Test results and re-measurements shall be assessed in accordance with the provisions of Section 8300 : Quality Control (Scheme 2) of the standard specifications, as amended in these project specifications."

B3407 MEASUREMENT AND PAYMENT

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"It may be necessary for the contractor to work in confined areas but no additional payment will be made for work done in "restricted areas". In certain areas the width of the fill material and pavement layers may reduce the zero and the working space may be confined. The method of construction in these confined areas depends on the contractor's constructional plant. However, the contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, and that the rates and amounts Bided will be deemed to include full compensation for all special equipment or construction methods or for any difficulty encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for additional payment be considered on account of such difficulties."

ITEM**UNIT****B34.01 Pavement layers constructed from gravel taken from cut or borrow, including free-haul up to 1,0 km:**

(a) 150mm Gravel selected layer compacted to:

ADD THE FOLLOWING SUB-ITEM:

(iii)	90% of modified AASHTO density (150mm thickness)	Cubic metre (m ³)"
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SECTION 3500 : STABILISATION**B3502 MATERIALS****(a) Chemical stabilizing agents**

ADD TO SUB-CLAUSE 3502(A) THE FOLLOWING :

"The new SABS ENV 197-1 standard specifications will be applicable to this Contract (Refer to Clause B1229 in the Project Specification). According to these specifications the following cements are prescribed:

- (ii) Ordinary Portland cement : CEM 1
- (iii) Portland blast-furnace cement : CEM III/A, III/B AND III/C
- (iv) *Ground granulated blast-furnace cement : As specified in 3502(a)(iv)*
- (v) Portland fly-ash cement : CEM II/A-V, CEM II/B-V, CEM II/A-W, CEM II/B-W"

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

ADD TO CLAUSE 3509 THE FOLLOWING :

"Test results and re-measurements shall be assessed in accordance with the provisions of Section 8300 : Quality Control (Scheme 2) of the standard specifications, as amended in these project specifications.

The Contractor shall advise the Engineer at least 24 hours in advance of any stabilization work to enable him to organise and conduct his own control tests.

Where the stabilizing agent is to be spread by hand, the pockets of stabilizing agent shall be placed on the layer at regular intervals. However, spreading shall not be carried out before the engineer is satisfied that the correct quantity of stabilizing agent can be spread.

Stabilized layers shall be primed within 24 hours of construction. Stabilized layers shall be covered for curing within 7 days by means of seal or covered by sand. If the stabilized layer is found to have failed, the cover material shall be removed and the layer rectified if instructed by the engineer. No additional payment shall be made for such removal and remedial work."

B3510 MEASUREMENT AND PAYMENT

DELETE THE NOTE AT THE START OF THE MEASUREMENT AND PAYMENT CLAUSE DEALING WITH WORK IN RESTRICTED AREAS AND REPLACE WITH:

"On this contract, no extra over payment will be made due to the nature of the site or the size of the work area available. All costs associated with carrying out the works in restricted areas are deemed to be included in the Bided rates of the specific item in the bill of quantities."

B35.02 Chemical stabilising agent:

ADD THE FOLLOWING NOTE TO THIS PAYMENT ITEM:

"The notation used for Portland cement and Portland blast-furnace cement corresponds with the notation specified in SABS ENV 197-1."

SECTION 4300 : DOUBLE SEALS

B4302 MATERIALS

(a) Priming Material

ADD TO THE WORDS: "such as MSP 1 or similar." TO THE LAST OF THE LISTED PRIMING MATERIALS.

B4306 APPLICATION OF THE PRIME COAT

ADD THE FOLLOWING TO SUBCLAUSE (c):

"The nominal rate of application of the prime for Bid purposes shall be 0.75l/m²."

SECTION 5600 : ROAD SIGNS**B5602 MATERIALS****(g) Retro-reflective material**

IN THE FIRST SENTENCE, REPLACE "SABS 1519" WITH "SABS 1519-1" AND DELETE "and the adhesion requirements of CKS 191."

ADD THE FOLLOWING:

"When measured with a field retro-reflectometer in accordance with section B8118, the coefficient of retro-reflection of a retro-reflective material shall not be less than the appropriate value given in Table B8118/1."

(k) Black vinyl

IN THE SECOND SENTENCE REPLACE "SABS 1519" WITH "SABS 1519-1" AND DELETE THE REST OF THE SENTENCE.

ADD THE FOLLOWING SUBCLAUSE:

"(m) Temporary covers for road signs

When required, existing road signs shall be fully or partially covered with burlap or other approved material to obscure destinations that are temporarily inapplicable or irrelevant.

The covers shall be neatly applied and firmly fixed in position on the rear side of the sign so that they will be able to withstand strong gusts of wind or eddies caused by passing traffic."

B5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS**(a) Road sign boards****(i) Steel plate road sign boards**

ADD THE FOLLOWING AS THE FOURTH PARAGRAPH:

"Steel plate used to manufacture guidance signs shall be pre-punched by means of an automated process with 5 mm holes in a rectangular grid pattern not exceeding 150 mm c/c."

B5610 DANGER PLATES AT CULVERTS/STRUCTURES

ADD THE FOLLOWING:

The unit of measurement shall be the number of danger plates provided and erected in accordance with the drawings.

<u>ITEM</u>	<u>UNIT</u>
B56.10 Danger plates at culverts/structures	
(a) Type A at stormwater culverts (size indicated)	number (No.)
(b) Type B at bridges (size indicated)	number (No.)

The Bided rate shall include full compensation for all labour and material, painting, posts, excavation, backfilling with soil etc., as may be necessary for completing the work in accordance with the details shown on the drawings."

SECTION 5700: ROAD MARKINGS**B5702 MATERIALS**

- (a) **Paint**
- (ii) Retro-reflective road-marking paint

ADD TO SUB-CLAUSE 5702(A)(II) THE FOLLOWING :

"During actual painting the Contractor shall supply sealed samples of the paint to be used to the Engineer together with details of the paint batch numbers and testing carried out on these particular batches by the paint manufacturer to prove compliance with this specification. These samples shall be kept until the end of the defects liability period."

B5704 MECHANICAL EQUIPMENT FOR PAINTING

ADD TO CLAUSE 5704 THE FOLLOWING :

"The machine shall always operate in the direction of the traffic when applying lane markings."

B5712 FAULTY WORKMANSHIP OR MATERIALS

ADD THE FOLLOWING PARAGRAPH:

"Should less than 95% of the road markings comply with the specified coefficient of retro-reflected luminance when tested in accordance with Section B8119, the Contractor shall repaint the works at his own cost."

B.6414 QUALITY OF MATERIALS AND WORKMANSHIP

(a) Criteria for compliance with the requirements

Add the following:

"Quality control shall be carried out by the engineer as specified in Section 8200 : Quality Control (Scheme 1)."

Add the following new paragraph:

“(d) Concrete cores - strength requirements

Cores will only be drilled if authorised by the engineer. This will only be considered if the contractor's own cubes, when crushed by the engineer, attained the required 28-day cube strength."

B.6416 MEASUREMENT AND PAYMENT

<u>ITEM</u>	<u>UNIT</u>
B64.01 Cast in situ concrete:	cubic metre (m ³)

Add the following after the first paragraph:

"Where foundation slabs are set directly against the face of excavations, the volume of concrete measured for payment shall include the total volumes of concrete placed, allowing for up to a maximum over the neat footing dimensions of 200mm where in the opinion of the engineer accurate excavation to neat lines and levels indicated on the drawings is not possible. (No formwork to the footing shall be measured when the concrete is cast against the face of the excavations)."

SECTION 8100: TESTING MATERIALS AND WORKMANSHIP**B8111 TESTS ON PAVEMENTS****B8111 (b) Straight-Edge Test for Surface Irregularities on Surfaces with a Coarse Surface Texture**

ADD TO SUB-CLAUSE 8111(B) THE FOLLOWING:

"The Contractor shall perform surface irregularity tests on base course by means of a 3,0 m straight-edge with the necessary wedge as described in Clause 8111 (b), and shall have the straight-edge and wedge on site throughout the production of the base course for the use of himself during process control testing and for the use of the Engineer during acceptance control testing.

No separate payment shall apply for having the straight edge and wedge on site."

ADD THE FOLLOWING NEW CLAUSES:

"B8118 TESTS ON RETRO-REFLECTIVE MATERIAL FOR USE ON ROAD SIGNS

On site testing of the retro-reflective properties of road signs shall be done with a field retro-reflectometer measuring at an entrance angle of 5,0° and an observation angle of 0,33°. The coefficient of retro-reflection so determined shall not be less than the relevant values given in Table B 8118/1 below. The coefficients of retro-reflection are expressed in candelas per lux per square meter (cd/(lux/m²)).

TABLE B 8118/1 COEFFICIENTS OF RETRO-REFLECTION

1	2	3	4	5	6	7	8	9	10	11
Class	Observation angle (degrees)	Entrance angle (degrees)	Coefficient of retro-reflection for different colours of material when measured with Standard Illuminant A* (cd/(lux/m²)) minimum							
			Red	Orange	Yellow	Green	Blue	Purple	White	Brown
I	0,33	5	10	20	35	7	3	2	50	3
II	0,33	5	20	40	70	14	6	4	100	6
III	0,33	5	30	60	105	21	9	6	150	9

*See CIE Publication 15 (E-1.3.1)

B8119 TESTING OF APPLIED ROAD MARKINGS

Road markings will be checked for compliance with the specifications utilising appropriate equipment and in accordance with the following standard:

Night-time retro-reflectivity: SABS 1261: *Determination of retro-reflected luminance by means of a portable retro-reflectometer*. (Measurement to SABS 1261 shall be made in accordance with the 30 m measurement geometry).

(a) Sampling procedure for testing of road markings

Acceptance testing shall be done per uniform section of road and will be based on a sample not exceeding 5% of the works for retro-reflective measurements.

The procedure shall be as follows:

- (i) Per uniform section, test locations shall be identified randomly. Each randomly selected position shall be 200m in length. At each test location the 200m section shall be marked out into four 50m long sections. One 5m length shall be selected within each 50m section and measurements shall be made on such a length. (One 200m section length shall therefore be considered as a 5% sample for a road section of 4km in length)

- (ii) The following number of tests for retro-reflectivity will be done per 200m section. (Depending on roadway cross-section).

Line location	No of tests	Sample %
Left edge line (yellow)	2	2,5%
Lane lines (white)	2	2,5%
No overtaking line (white)	4	5%
Dividing line (white)	4	5%

The following line types will be tested individually, subject to the indicated sampling rate :

Line location	Sample %
Stop lines or yield lines	20% in total
Painted islands	2,5% of square metre

Each reported retro-reflection test will comprise the average of three (3) readings."

ADD THE FOLLOWING NEW ITEMS:

B81.04 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING NEW SUB-ITEM:

ITEM

UNIT

B81.04 Provisional sums to provide for the on-site Laboratory:

- | | | |
|-----|---|----------------|
| (a) | Provisional sum to provide personnel for the site laboratory | P Sum |
| (b) | Provisional sum to provide for a rented vehicle for transport for the site laboratory | P Sum |
| (c) | Provisional sum to provide for equipment rental for the site laboratory | P Sum |
| (d) | Handling costs and profit in respect of sub-item B81.04 (a) and (b) | Percentage (%) |

The prime cost sum shall be expended in accordance with the provisions of the general conditions of contract. Payment to the Engineers site Laboratory shall be made within fourteen (14) days after such order has been given by the engineer. The contractor shall provide detailed proof of payment before payment shall be certified to the contractor.

The Bided percentage in item B81.04(d) is an extra over percentage on the amount actually spent under sub-item B81.04(a, b, c) which shall include full compensation for the handling costs and profit of the contractor."

Measurement and payment in respect of the provisional sum item shall be made in accordance with the provisions of the general conditions of contract."

SECTION 8300 : QUALITY CONTROL (SCHEME 2)**B8301 SCOPE**

ADD THE FOLLOWING TO CLAUSE 8301 OF THE SPECIFICATIONS:

“Quality control shall be carried out in accordance with the requirements of Section 8300: Quality Control (Scheme 2).”

B8309 PROCESS CONTROL BY THE CONTRACTOR

ADD TO CLAUSE 8309 THE FOLLOWING :

“For the purpose of this Contract process or quality control by the Contractor comprises at least the following:

Soil Tests:

Field densities, maximum dry density and optimum moisture content determinations, CBR, UCS, indicator tests (grading and PI), moisture contents, solid densities and chemical tests relating to stabilizing agent contents;

Aggregate tests:

Grading, flakiness index, average least dimension (ALD);

Concrete tests:

Concrete mix designs, slump and cube crushing strengths.”

GENERIC LABOUR-INTENSIVE SPECIFICATION

The Generic Labour-intensive specification below is the same as SANS 1921-5, Construction and management requirement for works contracts- Part 5: Earthworks activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

SCOPE

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a) trenches having a depth of less than 1.5 metres
- b) storm water drainage
- c) low-volume roads and sidewalks

PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

HAND EXCAVATEABLE MATERIAL

Hand excavatable material is material:

- a) Granular materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) Cohesive materials:
 - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note:

- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in upto 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

- a) to 90% Proctor density;
- b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All hand excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.