

**APPOINTMENT OF PANEL OF CONTRACTORS, MAXIMUM OF 10 FOR
ELECTRIFICATION PROJECTS FOR A PERIOD OF THREE YEARS ON AN AS
AND WHEN REQUIRED BASIS**

**Situated in
ELIAS MOTSOALEDI LOCAL MUNICIPALITY**

C3: SCOPE OF WORK

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All definitions, interpretations and general provisions for the General Conditions of Contract for Construction Work (2015) (3rd edition) are applicable.

C 3.1 DESCRIPTIONS OF WORKS

C3.1.1 Employer's Objective

ELIAS MOTSOLEDI LOCAL MUNICIPALITY intends to appoint a panel of Contractors to render services and act as implementing agent for various projects on an As and When basis for a three year period. Contractors will be invited by means of the tendering process to submit a detailed project tender and BOQ; with reference to the service to be rendered during a three year period and information of their firms, for evaluation purposes.

C3.1.2 Overview of the Works

Labour-intensive works comprise the activities described in SANS 1921-5. The contract consists of erecting new MV overhead lines, Supplying transformers and the installation of an LV overhead networks.

C3.1.3 Extend of the Works

The works include the supply of labour, transport, materials, supervision, plant, equipment and consumables to electrify 1209 households in various Village - under the Elias Motsoaledi Local Municipality.

Erection of MV infrastructure (line, section links & transformers)

Erection of LV infrastructure (lines, meter installations & service cables)

Installation of Meters

Testing of the completed works and commissioning thereof

Updating the As Built Drawings

C3.1.4 Location of the Works

The sites are situated within the Following Villages: Masakaneng, Matlala Lehwelere, Maleoskop, Rodebosch; Vlakfontein and Ga Phosa and are located approximately in a 7km to 40km from Elias Motsoaledi Municipality. The coordinates of the area to be electrified are: 25°14'51.41"S, 29° 5'3.26"E

C3.1.5 Construction program

It is specifically brought to the notice of the Contractor that time is critical on this project, and the construction period will be a major factor in the award of the tender.

Tenderers shall submit with their tender their preliminary programme for the construction of the Works under this contract to suit their proposed method of executing the Works. The programme shall be sufficiently detailed to differentiate between the various activities so that the contract may be properly evaluated.

C3.1.6 Change in works

The Engineer may, from time to time by order in writing without in any way vitiating the Contract or giving to the Contractor any claim for additional payment, require the Contractor to proceed with the execution of the works in such order as in his opinion may be necessary, and may alter the order of or suspend any part of the Works at such time and times as he may deem desirable and the Contractor shall not, after receiving such written order, proceed with work ordered to be suspended until he shall receive a written order to do so from the Engineer. Where the work must of necessity be carried out in conjunction with work of other Contractors, or with that of the Employer, it shall be co-ordinated and arranged in such a manner as to interfere as little as possible with the progress of such other work so as to offer every reasonable facility to other Contractors or to employees of the Employer.

C3.2 ENGINEERING

C3.2.1 Design services and activity matrix

Description	Responsibility
Design of Works	Engineer
Concept, feasibility and overall process	Client
Basic Engineering and detail layouts to tender stage	Engineer
Final Design of Works	Engineer
Final Design to approved for construction stage	Client
Preparation of tender documentation & adverts	Engineer
Appointment of soil test / topographical surveyors	Engineer
Appointment of sub-contractors	Contractor
Supervision	Engineer
Preparation of as-built drawings	Contractor / Engineer
Completion certificate	Engineer / Client / Contractor

C3.2.2 Drawings

The Engineer will provide the Contractor with one full set of drawings, which will be used exclusively for the recording of as built information by the Contractor. The work shall be carried out in accordance with the latest available revision of the drawings approved for construction.

Only dimensions, positions, levels, co-ordinates etc. that change from the original values, will be required to be entered on these drawings. These drawings, fully marked up, will be handed to the Engineer at the issue of the Certificate of completion, which will not be issued until the as-built information has been received.

C3.3 PROCUREMENT

The Tenderer's attention is drawn to the fact that the awarding of this tender will be in terms of the Supply Chain Management Policy of the Elias Motsoaledi Local Municipality and The Standard Conditions of Tender as contained in Annexure F of the July 2015 edition of the CIDB Standard for Uniformity in Construction Procurement.

C3.4 SUB-CONTRACTING

No work may be sub-contracted to another party unless approval is given by the Engineer in liaison with the Client in writing. The Contractor is to submit to the Engineer in writing a request for appointment of a particular sub-contractor. Accompanying this request is to be the full detail of the sub-contractor, including:

- Previous experience
- Work which will be sub-contracted to him/her
- Approximate value of the work to be sub-contracted

Before the Engineer in terms of Clause 49 hereof issues any certificate that includes any payment in respect of work done or goods supplied by any sub-contractor appointed in accordance with the provisions of Clause 6.3 of the General Conditions of Contract for Construction works (2015 3rd Edition), he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such sub-contractors have been made or discharged by the Contractor, in default of which, unless the Contractor:

- ✓ Informs the Engineer in writing that he has reasonable cause for withholding or refusing such payment; and
- ✓ Submits to the Engineer reasonable proof that he has so informed such sub-contractor in writing.

C3.5 CONSTRUCTION

C3.5.1 Work Specifications

Applicable SANS 10142 Standards

Applicable SANS 10142 Standardised Specifications for the purpose of this Contract the latest issues of the following Standard Specifications for Electrical Engineering Construction, applicable at the date of tender advertisement, shall apply –

SANS 10142-2: 2017 Medium voltage installations

The term project specifications appearing in any of the SABS 1200 standardised specifications must be replaced with the terms scope of work.

The variations and additions to the specifications listed in C3.4.1.2 (a) are as follows: PSA GENERAL

C3.5.1.2 Other applicable national and international standards

NRS 047

NRS 048

NRS 033

Eskom standards

Elias Motsoaledi Local Municipality

C3.5.2 Plant and materials

All the materials offered are to conform to the **Technical Requirements of Eskom & Elias Motsoaledi Local Municipality** and they are to be procured from **Eskom / EMLM Approved Suppliers**, and shall be new and of the best quality. Any deviation or variance from the above to be approved by the Engineer or his representative on site.

Where specific site circumstances require non-standard material application and / or due to shortcomings of the standard package, the designer, contractor shall develop "ad hoc" packages and submit these to the Engineer for approval before implementation.

Where materials other than those in the standard design packages are offered, the "Tendered Material and Technique" schedule shall be completed as part of the tender.

Marked Conductor

Only marked conductor may be used on these projects. Marked conductor may only be obtained from the approved manufacturers (list can be provided on request).

Tenderers must use the conductor prices as obtained from the approved manufacturers, i.e. **MV Fox conductor, Aerial Bundle Conductor (ABC) & Airdac cable**

The waste and off-cuts have been allowed in the bill of materials.

The successful tenderer (Contractor) must procure marked conductor from an approved manufacturer, on behalf of Council i.e. **Fox, ABC and Airdac**.

Council will maintain ownership of the marked conductor at all times.

Conductor manufacturers may sell marked conductor only to those contractors who can prove that it will be used on Council's projects. Council will provide such contractor with the necessary proof, indicating the name of the project and the quantities required.

The contractor provides for the necessary transport arrangement to deliver conductor to site. The contractor arranges for returning unused marked conductors to the supplier, should there be any.

The contractor returns all waste and off-cuts to the Municipality
An accredited Distributor may only be included in the supply chain if:

- The Distributor is an approved / accredited Distributor of the Manufacturer
- No marked conductor will be sold to anyone without a letter being presented to the manufacturer
- Marked conductor will be delivered directly to the contractor/ site
- No marked conductor may be at the premises of the Distributor

The Distributor merely arranges the deal, and the process as currently being applied, remains unchanged.

Earthing

The *Contractor* will be responsible for ensuring that soil resistivity tests are carried out, and earthing be as per supplied drawings bearing in mind the Eskom MV Distribution Earthing Standard Part 2.

Clearances and shared structures

As per Eskom MV / LV Distribution Standards.

Equipment and Structures

The Contractor is to ensure that structures are uncluttered and that working clearances are maintained with regard to the amount of equipment installed and shall ensure that provision is made for safe and easy operational practice. This is especially pertinent to strain poles, switching points and transformer structures.

Site Visits

A site diary will be signed by all personnel visiting the site. Deviations will be reported to the *Project Manager*.
(The Municipal technical personnel will be granted full and unconditional access)

Specification for "AS- BUILT" Plans (Rev. 41999-10-25)

i. Main Objective

The main objective behind the requirement for the provision by the *Contractor* of "as-built" information is to provide the computerized mapping service for the Marketing, Planning, Survey Records, Construction and Maintenance of Urban /Rural reticulation projects.

ii. Software requirements

All layout and reticulation designs are to be captured onto AutoCAD using Microstation.

NOTE: Some services i.e. Telkom lines or pipelines may be shown on the plans. These services must be considered incomplete and the Tenderer must verify the services indicated.
Any damage to any services during the contract is for the *Contractor's* account.

C3.5.3 Construction Equipment

All equipment on site shall be in a good working order, and is to be in such a condition that it can achieve production rates which are typical of the industry standards.

Should any equipment, in the opinion of the Engineer, be substandard or breaks down frequently to such an extent that it affects the progress on the project, the Engineer may instruct the Contractor to replace such equipment.

C 3.5.4 Existing Services

The Contractor shall so carry out all his operations as not to encroach on, or interfere with, trespass on, or damage adjoining lands, building properties, roads, structures, places and things in the vicinity of the Works, and he shall free and relieve the Employer of any liability that may be incurred in consequence of his failure to do so.

The services existing on the site will be either shown on the drawings or pointed out on site by the Engineer and / or the Municipality. No excavation work will commence unless a representative of the Municipality and/or the Engineer have been requested to point out existing services in the area under construction. Written confirmation of services that have been pointed out by the Municipality is to be obtained by the Contractor.

All existing services on the site may not be shown on the drawings or be visible on the site. The Engineer may order excavation by hand in order to search for and expose services. An item has been included in the Schedule of Quantities to cover the cost of such work if so ordered

by the Engineer. Where a service is damaged because of the Contractors negligence he shall be liable for the cost involved in the repair of the services and any other consequent cost that may arise due to the interruption of the damaged services.

No excavation is to take place until a representative from the Municipality has been contacted and he has pointed out the existing services to the Contractor and confirmed it in writing. The same shall apply to all Telkom services in the area.

C3.5.5 Site Establishment

- Source of Water Supply

Water is available from the existing water network in the municipal area and the Contractor is to arrange with the Local Authority for a connection point. The Contractor will be responsible for the costs of the connection as well as the use of water for construction purposes. The Contractor's attention is drawn to the fact that the potable water supply is erratic in this area. Under no circumstances may potable water be used for construction, unless written permission is granted by the Engineer.

- Sources of power supply

Electricity is available from the existing network in the municipal area, and the Contractor is to arrange with the Local Authority for a connection. The Contractor will be responsible for the costs of electricity consumed as well as the connection costs.

- Location of camp and depot

The Engineer shall point out the position of the Contractors camp to the Contractor during the site inspection. The Contractor may assume that the site camp will be within 2 km of the site.

- Sanitary facilities

The Contractor is to provide the necessary sanitary facilities at his camp, all of which will be governed by the requirements of the Local Authority. The contractor shall pay all sanitary fees and charges due.

- Temporary offices

The Contractor is not required to provide any specific office space for the Engineers, but the Contractors' offices shall have adequate space and facilities for the holding of site meetings, and for the Engineer to perform administrative functions on an ad hoc basis.

Neither housing nor shelters will be provided for the contractor's employees, and the Contractor shall make his own arrangements to house his employees and transport them to the Site.

- Laboratory facilities

The use of commercial laboratories will be allowed, but the laboratory to be used is subject to the approval of the Engineer.

- Sanitary facilities

It is not required that specific sanitary facilities be provided for the Engineer, and the facilities for the Contractor will be shared by both parties. The facilities are, however, to be kept in a clean and hygienic condition, to the satisfaction of the Engineer. All sanitary facilities are to conform to the by-laws of the Local Authority.

- Name Boards

One name board shall be provided in positions as ordered by the Engineer. The Engineer will provide the lettering required once the tender is awarded.

- Survey assistant and equipment

The Contractor will be required to make any survey equipment available for the use of the Engineer. The Contractor will also make 2 survey assistants available to the Engineer as and when required, as well as the theodolite and/or level plus accessories.

C3.5.6 Site Usage

- Ground and access to the works

The Contractor shall where necessary on or adjacent to roads which carry traffic; provide all the necessary barricades and signs in accordance with the stipulations of the South African Road Traffic Signs Manual, and in strict accordance with the requirements of the Protective Services of the ELIAS MOTSOLEDI Local Municipality.

The Contractor shall further ensure that all public roads that are used for access to the site are kept free of debris at all times. The Contractor shall also take adequate measures to ensure that dust is kept to an acceptable level. The term acceptable is to be deemed as acceptable to the Engineer.

- Care, damage and protection

The Contractor shall at his own cost make full provision for all watching and lighting necessary for the protection of all persons, animals, vehicles, etc., from injury by reason of the Works. He shall provide ample warning signs, guard rails, etc., around open excavations, stacks of materials, excavated material, debris or the like, and he shall be held liable for all claims made upon himself or upon the Employer by reason of his neglect of all such precautions and provisions.

During the periods of construction of the Works and the repair of defects, the Contractor shall, at his own cost, to the satisfaction of the Engineer and the relevant Authority, take sufficient and adequate measures to avoid interrupting the use of all roads, footpaths, water courses, drains, pipes, telephones, electric wires and cables, premises, places and works, public or private, which may in any way be interfered with by the operations; and shall also afterwards permanently restore all structures and everything which may have been temporarily displaced or otherwise interfered with, all to the satisfaction of the Engineer and

the relevant Authority, without extra charge beyond the Contract price.

- Survey beacons

The Contractor shall take care to safeguard any permanent survey beacons such as erf boundary pegs and reference beacons. Should the Contractor disturb any such pegs and beacons, he shall have them replaced at his own cost by a registered Land Surveyor. The Contractor is to provide the Engineer with written confirmation from the Land Surveyor that he has replaced the relevant beacons.

The Contractor's attention is drawn to article 35(i) of the Land Surveying Act No. 9 of 1927 (as amended) in this regard.

- Blasting

As the construction takes place within a built-up area, extreme care is to be taken during any blasting operations. No blasting shall be permitted without prior written consent from the Engineer. Written as well as verbal notice will be given to all house owners in the affected area 24 hours prior to the blast being set off, and the contractor is to do a survey of all the houses (internal and external) in the area prior to blasting.

A full daily report of all blasting operations (in duplicate) is to be completed by the Contractor.

This report shall inter alia contain the following information:

- Date and time of each blast
- Number of holes
- Charge per hole
- Use of relays, etc.

This report is to be submitted to the Engineer on a weekly basis, and is to be countersigned by the Engineer.

The contractor is to be noted that he is not to use or permit any person to use an explosive powered tool, unless—

(a) ____ it is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and

(b) the firing mechanism is so designed that the explosive powered tool will not function unless—

- (i) it is held against the surface with a force of at least twice its weight; and
- (ii) the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle.

- Protection of existing vegetation

Before any tree is cut down and removed from the site, the Contractor shall confirm the necessity of such action with the Engineer or his Representative.

- Access to individual erven

Access to all public and private property must be maintained at all times. Where trenches cross the access point to any property, the Contractor is to arrange for adequate and safe vehicular and pedestrian crossings over the trenches.

The Engineer must approve the method of providing access before any excavation commences.

- Use of construction vehicles and equipment

The contractor shall ensure that all construction vehicles and mobile plants—

- (a) are of an acceptable design and construction;
- (b) are maintained in a good working order;
- (c) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- (d) are operated by workers who-
 - (i) have received appropriate training and been certified competent and been authorised to operate such machinery; and
 - (ii) are physically and psychologically fit to operate such construction vehicles and mobile plant by being in possession of a medical certificate of fitness;
- (e) arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- (f) are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guardrails and crash barriers;
- (g) where appropriate, are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- (h) are equipped with an electrically operated acoustic signalling device and a reversing alarm; and
- (i) are on a daily basis inspected prior to use, by a competent person who has been appointed in writing and the findings of such inspection is recorded in a register.
- (j) no person rides or be required or permitted to ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- (k) every construction site is organised in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
- (l) the traffic routes are suitable for the persons using them, sufficient in number, in suitable positions and of sufficient size;
- (m) every traffic route is, where necessary indicated by suitable signs for reasons of health or safety;
- (n) bulldozers, scrapers, loaders, and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set;
- (o) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- (p) when workers are working on or adjacent to public roads, reflective indicators are provided and worn by the workers.

3.6 **MANAGEMENT**

C3.6.1 Management of the Works

- Planning and programme

The Contractor shall deliver to the Engineer within **14** days, calculated from the commencement date, a realistic programme showing the order of procedure, the duration of activities making up the programme and method which he proposes to use in carrying out the Works in order to meet the due completion date for this project.

The tenderer is to note that the penalty for failing to complete the works is R **3 500.00** per day.

- Setting out of the works

Generally, the positions of the works have been fixed on the plans according to the existing stand boundaries. The Engineer is to approve all setting out prior to commencement of excavation.

- Excavation of works & safety

The contractor shall ensure that all excavation work is carried out under the supervision of a competent person who is been appointed in writing. The Contractor will evaluate, as far as is reasonably practicable, the stability of the ground before excavation works begin and he/she shall not permit any person to work in an excavation which has not been adequately shored or braced.

The Contractor will cause convenient and safe means of access to every excavation area in which person are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working.

The Contractor must ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and shall before the commencement of excavation work that may affect any such service, take the steps that may be necessary to render the circumstances safe for all persons involved;

The Principal Contractor shall cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be:

- (i) adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
- (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor;

The Principal Contractor shall cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

- Inspection by engineer

No stage of construction shall be proceeded with until the Engineer or his representative has examined and approved the previous stage. If any work is covered or hidden from view before the Engineer has inspected same, the Contractor shall at his own cost open the covered work for inspection. The Contractor shall also be responsible for making good any work damaged by such uncovering.

- Employment of local labour

It is a specific criterion of this project that should as far as possible adheres to RDP principles, and to meet these principles the following procedures will be followed:

All labour is to be sourced from the ELIAS MOTSOLEDI Local Municipality and as informed by the “EPWP Recruitment Guideline” published by The Department of Public Works; area of jurisdiction and the Contractor may only bring in key personnel from outside this area.

The rate for appointed labour shall be determined by either

- i. The fixed rate for the appointment of local labour per provision by the Department of Public Works’ EPWP rate at the time of works commencement., or
- ii. The fixed rate in line with the provision by the Department of Labour. This will be payable by the Contractor on **fortnightly** basis. The Contractor’s attention is drawn to the standard rates specification (“*Annexure A*” – *Civil Engineering Industry Minimum Wage rates per hour; September 2010 to August 2013*) found on the SAFSEC website at www.safcec.org.za, or
- iii. The fixed rate as determined and defined by ELIAS MOTSOLEDI Local Municipality.

These standard rates shall be implemented for payment of all sourced employees of the Contractor.

Key personnel would typically include the Contracts Manager, Site Agent, and Supervisor for each discipline and operators of plant where the operator must be seated.

A Monthly labour report on all local labour i.e. payments and labour days should be submitted to the Engineer at the end of each month in order for the Engineer to submit a report to the Employer.

None of the Works shall be executed except between sunrise and sunset on Monday to Saturday, inclusive, of any week, and none of the Works shall be executed on any special non-working days stated in the Contract Data, unless:

- ✓ The Engineer’s permission in writing is obtained, subject to such conditions as may be laid down by the Engineer; or
- ✓ Provision is specifically made for it in the Contract; or
- ✓ Work is unavoidable or necessary for the saving of life or property or for the safety of the Works.

- Site Meetings

Regular meetings will be held between all relevant parties to establish the progress and / or delays and problems that might occur on site. Any problems of delays will be address accordingly and the Contractor will receive proper instructions with reference to this matter.

- Communication

The contact person for the Employer is: **Mr. Fetakgomo Debeila**
Contact No: **013 262 3056**

- Daily Records

Daily records of resources (equipment and people employed) must be kept and must be available on site at all times. These records will include i.e. site instruction book, site diary, site visit register, contractual documentation and minutes of all project meetings. Labour information should be kept updated at all times.

- Compliance with applicable laws

The Contractor shall, in performance of the Contract, comply with all applicable laws, regulations and statutory provisions and agreements, and shall in particular, on the request of the Engineer, provide proof that he has complied therewith with regard to amongst others:

- ✓ Wages and conditions of work; and
- ✓ Safety

- Payment Certificates

As consideration for the construction, completion and defects correction of the Works, the Employer shall pay the Contractor in terms of the provisions of the Contract.

- Clearance of site

On completion of the Works, the Contractor shall clear away and remove from the site all Construction Equipment, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a safe condition. All streams and watercourses (where applicable) shall be cleaned and restored to the condition as at the commencement of the Works. If the Contractor does not, within a reasonable time, comply with this requirement, the Employer may have the site cleared and recover the cost thereof from the Contractor.

- Termination of Contract

If application is made for the sequestration of the Contractor's estate, or if the Contractor publishes a notice of surrender of his estate or presents a petition for the acceptance of the surrender of his estate as insolvent, or makes a compromise with his creditors, or assigns in favour of his creditors, or agrees to carry out the Contract under the supervision of a committee representing his creditors, or (being a company) goes into liquidation, whether provisionally or finally (other than a voluntary liquidation for the purposes of

amalgamation or reconstruction), or if the contractor assigns the contract without having first obtained the Employer's consent in writing, or if execution is levied on his goods or if the Engineer certifies reference to this Clause, that in his opinion the Contractor:

- ✓ Has abandoned the contract; or
- ✓ Without reasonable excuse has failed to commence the Works in terms of Clause 10 of the General Conditions of Contract for Construction Works (2015 3rd Edition), or has suspended the progress of the Works for fourteen (14) days after receiving from the Engineer written notice to proceed or
- ✓ Has failed to proceed with the Works with due diligence; or
- ✓ Has failed to remove materials from the site or to pull down and replace work within fourteen (14) days after receiving from the Engineer written notice that the said materials or work have been condemned and rejected by the Engineer in terms of these conditions; or
- ✓ Is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract; or
- ✓ Has, to the detriment of good workmanship or in defiance of the Engineer's instruction to the contrary, sublet any part of the Contract; or
- ✓ Has assigned the Contract or any part thereof without the Employer's consent in writing; or
- ✓ The contractor or anyone on his behalf or in his employ would pay, offer or offer as payment to any person in the employ of the Employer a gratuity or reward or commission; or
- ✓ The contractor furnished inaccurate information in the Schedules forming part of this Contract.

Then the Employer may, after giving fourteen (14) days' notice in writing to the Contractor, terminate the Contract and order the Contractor to vacate the Site and to hand it over to the Employer, and the Employer may then enter upon the site and the Works and expel the Contractor there from without thereby affecting the rights and powers conferred on the Employer of the Engineer by the Contract, and the Employer may himself complete the Works or may employ another contractor to complete the Works, and the Employer or such other contractor may use for such completion so much of the construction equipment, temporary works and materials bought onto the site by the Contractor as the Employer may think proper, and the Employer may at any time sell any of the said construction equipment, temporary works and unused materials and apply the proceeds of sale toward payment of any sums that may be due or become due to the Employer by the Contractor under the Contract. In such circumstances the Contractor shall forthwith vacate the site and shall not be entitled to remain on the site on the grounds that he is entitled to do so on a right of retention until amounts due to him have been paid, neither will the contractor be entitled to any further payments of this Contract.

C3.7 HEALTH AND SAFETY

- Health & Safety Issues

All work is to be carried out in accordance with the Occupational Health and Safety Act and Regulations (Act 85 of 1993) (a copy of which must be kept on site), the Explosive Material Act of (Act 26 of 1956), the Minerals Act of 1991, and the Factories Machinery and Building Work Act (No 22 of 1941).

The Contractor's notice is drawn to the stipulations of the Construction Regulations 2003, a regulation of the Health and Safety Act 1993 (Gov Notice No R1010 of 18 July 2003). The construction regulation will be applied vigorously on the project.

The Contractor to be appointed must have made provision for the cost of health and safety measures during the construction process. The contractor must have the necessary skills, competencies and resources to carry out the work safely. A proper Safety Plan is to be submitted by the Contractor and a copy thereof is to be made available to all applicable appointed labourers and permanent workers on this project.

The Contractor is to ensure that the legal compliance for the Health and Safety issues are in place. Audits will be carried out to ensure that the Contractor is registered and in good standing with the Workmen's Compensation fund and that the Contractor has affected insurance indemnifying the Employer against penalties levied upon the Employer due to the acts of omissions of the Contractor in failing to comply with the provisions of the OHS regulations 2003. A compliance audit will also be carried out to ensure that the Contractor has appointed a full-time competent person in writing to deal with the issues of the OHS and that a risk assessment has been conducted and a copy of the Safety plan is on site before any work commences.

Operational audits will be carried out on the following important issues:

- ✓ That the Safety Plan is on site at all times
- ✓ That the Contractor's Safety file is on site at all times
- ✓ That the Safety Officer is on site at all times
- ✓ That Safety meetings are conducted as per the Safety Plan
- ✓ That employees are working under safe conditions
- ✓ That the public is not placed in danger
- ✓ That there is no harm to the environment

- Accommodation of traffic

It is expected of the Contractor to ensure that the free flow of traffic is possible throughout the construction period.

The Contractor is to provide all necessary barricades, signs and lighting in accordance with the stipulations of the South African Road Signs Traffic Manual, and the Protective Services of the ELIAS MOTSOLEDI Local Municipality. All work is to be to the satisfaction of the Engineer.

- Reporting of accidents

In addition to any statutory regulations, the Contractor shall, as soon as practicable, report to the Engineer every occurrence on the Works or the site causing damage to property or injury or death of persons. If required by the Engineer, the Contractor will submit a report in writing to the Engineer within 48 hours of such requirement setting out full details of the occurrence. The Engineer shall have the right to make any enquiries either on the site or elsewhere as to the cause and results of any such occurrence and the Contractor shall make available to the Engineer the necessary facilities for carrying out such enquiries.

C3.8 PROJECT SPECIFICATIONS

The Works shall comply with the latest revisions and amendments of the following:

- (1) The South African Bureau of Standards Code of Practice for the Wiring of Premises, SABS 0142, referred to herein as the "Wiring Code".
- (2) The Occupational Health and Safety Act of 1993, and its associated Regulations.
- (3) All Regulations and by Laws of Elias Motsoaledi Local Municipality and the electricity supply service provider for the area (Eskom).
- (4) The Regulations of Telkom.
- (5) The Applicable SABS and NRS Specifications and SA Codes of Practice or BS or IEC Specifications and Codes of Practice where no SABS Specifications or SA Codes of Practice exists.
- (6) The Standard Regulations of any Government Department where applicable.
- (7) No claims for extras for failure of the Contractor to comply with any of the regulations and standards listed above will be considered.
- (8) Where conflict appears or exists between any of the regulations and standards listed above and the specifications, such conflict shall be referred to the Engineer in writing for his ruling.
- (9) Immediately after award of the contract, and at any time thereafter as may be necessary, the Contractor shall notify all relevant authorities, pay fees and take any other steps, which may be required or prescribed to execute the Works. Copies of such correspondence shall be forwarded to the Engineer who shall be kept informed at all times. This shall not, however, release the Contractor from his responsibilities.

Tenderers must visit the site to familiarize themselves with all conditions on site before tenders are submitted. Tenderers must allow for all conditions on site in their tenders. No claim for extras will be allowed whatsoever if tenderers did not allow for all costs on site in their tender prices.

C3.1.3.3.24 Electrical Works

QUANTITIES

The Electrical Contractor shall take his own quantities, dimensions and particulars of material required to complete the contract as specified, unless a detailed Bill or Schedule of Quantities accompanies this document, in which event quantities shall be determined in accordance with the clauses preceding the Bill or Schedule of Quantities.

INNOVATIVE WIRING SYSTEMS AND DEVIATIONS FROM SPECIFICATION

This is the specification for the network:

NOTE: No deviation or alteration from the requirements of the specification, schedules or drawings shall be made without first obtaining the approval of the Engineer.

MV Infrastructure (Street front Design):

Support towers - 12m wooden poles as per BOQ and design layout plans
Conductor - Bare ACSR Mink
Transformers - SABS 780 200kVA; 22kV/400V
Breakers - Drop Out Fused Links

LV Infrastructure (Midblock for most of the time and Street front in some sections):

Support towers - 9m, poles as per BOQ and design layout plans
Conductor - Aerial Bundle Conductor (ABC) 4 CORE 70mm²
Service Cable - Cable 1kV 2 core 10mm² CU

House Connections (Overhead with shack poles where required):

Pole Top Boxes - 2 way & 4 way Pole top box split metering (1 x 80A circuit breaker)
Meters - 20Amp Meter Split DIN Rail
Ready board - Ready board, split meter 2x16A sockets

B2 SECTION 1100: DEFINITIONS AND TERMS

B 1115 GENERAL CONDITIONS OF CONTRACT

REPLACE "for National and Provincial Road and Bridge Works", IN THE SECOND AND THIRD LINES WITH "for Road and Bridge Works for State Road Authority".

ADD THE FOLLOWING CLAUSE:

"B 1156 LABOUR-OPTIMISING CONSTRUCTION

The cost effective employment of as great a portion of labour as is practically and technically feasible to produce a standard of construction as required by the Specifications, thus the economic substitution of plant and mechanical equipment in favour of available labour using hand tools, on condition that this method is not more expensive than the conventional construction practices."

B3 SECTION B1200: GENERAL REQUIREMENTS AND PROVISIONS

B 1202 SERVICES

Add the following:

"Information regarding known services is shown on the drawings.

The information shown on the schedule of services is based on the best available information. No guarantee as to the accuracy of the information can be given and the schedule should, therefore, be used as a guide only.

Before work commences, the Contractor shall contact all private owners or public authorities controlling services to allow them to protect, move or relocate a service as required, or to confirm that all such work has been completed.

The relocation and protection of services shall be carried out in conjunction with the service owners and in compliance with the Machinery and Occupational Safety Act 6 of 1983.

Where protective measures involve the construction of permanent work, payment as specified in the order given by the engineer, shall be either at contract rates, where these are applicable, or where no contract rates are applicable, in accordance with the provisions of Clause 6.4 of the General Conditions of Contract.

No payment will be made for inconvenience to the Contractor due to services crossing the Site or any authority working on such services, nor will delays caused by such workings be accepted as a basis for claiming an extension of time for completing the Works."

B 1204 PROGRAMME OF WORK

Insert the following before the first paragraph:

"A bar-chart programme shall be provided showing the various activities in such detail as may be required by the engineer. The programme shall be updated monthly in accordance with the progress made by the contractor. The critical path of the programme of work shall also be indicated.

In compiling the programme of work, the contractor shall incorporate the following important factors specified in these specifications:

- The specified contract period.
- Percentage of work to be done by Black Economic Empowered Enterprises and labour intensive work including a breakdown of the labour intensive work.
- The relocation and protection of services.
- Accommodation of traffic proposals.

The contractor shall take note of various factors contained in these specifications which will have a significant influence on the compilation of the programme of work."

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following after the title:

"The contractor shall implement a quality assurance system in accordance with ISO 9002 and appoint a quality manager who shall ensure that members of the contractor's staff comply with the requirements of the quality system. The quality system and the methods used to implement it shall be described in a quality plan produced by the contractor.

The quality manager shall be resident on site full time. No construction activities shall take place on site before the engineer approves the quality plan".

Delete the second, third, fourth and fifth paragraphs and replace with the following:

"The contractor shall submit the quality assurance system he proposes using to the engineer, for his approval, within two weeks of the site handover. Once accepted by the engineer the contractor shall not deviate from it unless written notification of proposed changes have similarly been submitted and approved. The system shall record the lines and levels of responsibility and indicate the method by which testing procedures will be conducted."

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B1206 THE SETTING OUT OF WORK AND PROTECTION OF BEACONS

Replace "clause 14" in the first paragraph with "clause 4.7"

Add the following paragraph:

"The contractor shall take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the engineer. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the contract without the consent of the engineer shall be the contractor's responsibility and included in the tender rates".

B1209 PAYMENT

(a) Contract rates

Add the following:

"In the event of items not listed in any schedule of the Pricing Schedule, the rates tendered for similar items in other schedules shall apply for payment of similar work, if ordered.

A further requirement of this contract is that the contractor provides a breakdown of all rates of all schedules in the pricing schedule within 14 days after the award of the contract. The breakdown of rates required are for labour, plant and transport, fuel, material, sub-contractors provisional sums, others and mark-up."

(b) Rates to be inclusive

Add the following to the first paragraph:

"VAT shall be excluded from the rates."

c) The meanings of certain phrases in payment clauses

Procuring and furnishing...(material)

Add the following:

"Payment for procuring and furnishing material from commercial sources shall include all transport costs, irrespective of distance hauled".

(e) Materials on the site

Replace "clause 52" in the first line with "subclause 14.5"

Add the following subclauses:

"(g) Work in confined areas

Except where provided for in the specifications and pricing schedule no extra payment shall be made nor shall any claim for additional payment be considered for construction in confined areas. The omission of standard pay items from the schedule of quantities shall be taken to be deliberate and any additional costs incurred shall be included in the bulk rate.

(h) Rates to remain unchanged when scope of work changes

Dependent on the rates and prices offered in the Pricing Schedule, the employer intends to increase or reduce the scope of work to match the budget allowed for this project. The value of such increase or reduction in the scope of works shall not give cause for the contractor to vary the offered rates and prices, which shall remain final and binding for the duration of the contract, excluding items under section 1300 of the pricing schedule, provided that:

(i) Notification of the change to the scope of work is given in writing in the Appendix to the Form of Acceptance.

(ii) The value of the increase or reduction in the scope of work does not alter the tendered sum, excluding all provisional sums, by more than 20%,

The employer reserves the right to negotiate with the contractor rates and prices for items under section 1300, as provided for in this clause."

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Add the following at the end of the clause:

"In addition to the listed specified items of work and regardless of the degree of beneficial occupation by the employer, no sections of the works, individually or collectively, shall be considered for practical completion unless the following criteria also have been met:

(i) In the case of partial completion, the estimated cost to complete the outstanding work is less than 2% of the estimated cost to construct the whole section or sections.

(ii) In the case of the whole works, the estimated cost to complete the outstanding work is less than 2% of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.

(iii) The written list of outstanding items of work can be completed within 28 days of the list having been accepted in writing by the contractor."

B1213 VARIATION FROM SPECIFIED NOMINAL RATES OF APPLICATION OR NOMINAL MIX PROPORTIONS

Add the following to the first paragraph:

"Tenderers shall, for the purpose of calculating tender rates, take note that the nominal rates of application and/or nominal mix proportions of a number of products are amended in these project specifications."

B 1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED WORK IS COMMENCED

Add the following clauses:

"(h) Prior to the start of any excavation in the existing pavements on any part of the works, the contractor shall submit to the engineer for approval a method statement for the execution of that part of the work. The contractor is responsible for the protection of the underlying pavement layers and the drying out and/or keeping dry of such excavations. The contractor's programme shall make provision for the speedy backfilling of the excavations and the drainage thereof if inundation cannot be prevented.

The contractor shall, at his own cost, be responsible for the repair of pavement layers which have been damaged due to his own works or his neglect to submit his planning to the engineer for approval or to adhere to approved precautionary measures.

(i) Concrete elements adjoining the road which is designated for resurfacing, shall be covered with protective material prior to any spraying operations to prevent the concrete from being stained with bituminous binder. The protection of concrete elements shall be to the engineer's satisfaction and no additional payment will be applicable for taking the specified protection measures."

“B 1230 MATERIALS

The contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the engineer with certificates showing that the materials do so comply.

Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the engineer's office on the site free of charge.

Where materials are specified under trade names tenders must be based on these materials. Alternative materials may be submitted as alternative tenders and the engineer may, after receipt of tenders, approve the use of equivalent materials. The tender must be clearly marked as an alternative tender, failing which the tender may be rejected.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's current published instructions.

Unless anything to the contrary is specified, all manufactured articles or materials supplied by the contractor for the permanent works shall be unused.

Earth, stone, gravel, sand, and all other materials excavated or present on the site or within the road reserve, or in borrow areas shall not become the property of the contractor, but will be at his disposal only in so far as they are approved for use on the contract.

Existing structures on the site shall remain the property of the employer and except as and to the extent required elsewhere in the contract, shall not be interfered with by the contractor in any way. Materials to be included in the works shall not be damaged in any way and, should they be damaged on delivery or by the contractor during handling, transportation, storage, installation or testing they shall be replaced by the contractor at his own expense.

All places where materials are being manufactured or obtained for use in the works, and all the processes in their entirety connected therewith shall be open to inspection by the engineer (or other persons authorised by the engineer) at all reasonable times, and the engineer shall be at liberty to suspend any portion of work which is not being executed in conformity with these specifications.

The contractor shall satisfy himself that any quarry selected for use provides the necessary mined material in accordance with the specification.

B1234 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 contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be an extra payment allowed for by the contractor.

B 1235 MEASUREMENT AND PAYMENT

B12.01 PROJECT LIAISON

The remuneration of the Liaison Officer(s) is set out in section C3.3.1.1.2 of this document

The Liaison Officer(s) shall only be employed and paid for the period in which the duties of a Liaison Officer are required as agreed on by the Engineer and the Contractor.

Item	Unit
(a) Project Community Liaison Officer(s)	Prime Cost Sum
(b) Project Liaison Committee	Prime Cost Sum
(c) Handling cost and profit in respect of subitem B12.01 (a) & (b)	Percentage (%)

B12.02 OCCUPATIONAL HEALTH AND SAFETY ACT

Compliance with the Occupational Health and Safety Act and applicable regulations

Item	Unit
(a) Provision of a Health and Safety plan	Lump sum
(b) Provision of Health and Safety file	Lump sum
(c) Provision of a safety officer (full-time)	Lump sum
(d) Health and Safety training	Lump sum
(e) Provision of personal protective clothing and equipment	Lump Sum
(f) Provision of safety fences, signs and barricades	Lump Sum
(g) All other obligations deemed necessary by the contractor	Lump sum
(h) Remuneration of an independent Occupational Health and Safety auditor nominated by the Engineer	Lump sum
(i) Handling cost and profit in respect of subitem B12.02 (h)	Percentage (%)

(a)	Provision of a Health and Safety plan	lump sum
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The lump sum tendered shall include full compensation for the provision and maintenance of a health and safety plan, risk assessment, permit applications and notifications as called for in the act and regulations.

Eighty per cent (80%) of the amount will be paid when an approved health and safety plan has been received by the client. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

(b)	Provision of Health and Safety file	lump sum
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The lump sum tendered shall include full compensation for the provision and maintenance of a health and safety file on site containing all the documentation required in terms of the act and applicable regulations.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be made when a consolidated health and safety file is handed to the client on completion of the works.

(c)	Provision of a safety officer (full-time)	lump sum
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The lump sum tendered shall include full compensation for the provision of a competent and experienced safety officer, part-time or full-time as the case may be, for the duration of the construction work.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

- (d) Health and Safety training lump sum

The lump sum tendered shall include full compensation for the provision of training programs for the contractor's employees and also, where applicable, for sub-contractors.

Eighty per cent (80%) of the amount will be paid when the contractor's personnel and sub-contractors, where relevant, have received health and safety training. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

- (e) Provision of personal protective clothing and equipment lump sum

The lump sum tendered shall include full compensation for the provision, maintenance, repair and/or replacement of damaged or unsuitable protective clothing and equipment for use by the contractor's employees, subcontractors and visitors on site.

Sixty per cent (60%) of the amount will be paid when the contractor's personnel and sub-contractors, where relevant, have received personal protective clothing and equipment. The payment of the remaining amount will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

- (f) Provision of safety fences, signs and barricades lump sum

The lump sum tendered shall include full compensation for the provision of safety fences, signs and barricades as well as maintenance, repair and/or replacement of damaged safety fences, signs and barricades and for all labour and costs required for the placement, removal or moving to fresh positions as and when necessary. The cost of safeguarding the above items against theft and vandalism shall also be included in the tendered sum.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

- (g) All other obligations deemed necessary by the contractor lump sum
to fulfil all requirements of the relevant Occupational
Health and Safety Act and Construction Regulations

The lump sum tendered shall include full compensation for the contractor's obligations in terms of the occupational health and safety act and supporting regulations not specifically covered in the items (a) to (f) above.

The payment of will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be payable when the completion certificate has been issued.

- (h) Remuneration of an independent Occupational Prime Cost Sum
Health and Safety auditor nominated by the Engineer

Item	Unit
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B12.03 Protection, removal, realignment and Replacement of Services

- (a) Utility services
(i) Relocation of services and payments to service owners. Provisional sum

Handling costs and profit in respect of Sub item B12.03 (a) (i) above Percentage (%)

The provisional sum for utility services shall be expended in accordance with Clause 6.6 of the General Conditions of Contract. The tendered percentage is of the amount actually spent under item B12.03 (a) (i), which shall be paid to the Contractor for full compensation for handling costs and profit in connection with dealing with utility services.

Item	Unit
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B12.04 Excavating material within the following depth ranges below ground level for the exposing of/or searching for services

- | | |
|--------------------------|-------------------------------|
| (a) 0m to 2m: | |
| (i) Soft material | cubic metre (m ³) |
| (ii) Hard material | cubic metre (m ³) |

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

Item	Unit
B12.05:	Backfilling:

- | | |
|--|-------------------------------|
| (a) Using the excavated material | cubic metre (m ³) |
| (b) Using imported selected material | cubic metre (m ³) |

Measurement and payment shall be as specified for item 22.02 in the standard specifications."

B12.06 TRAINING

Item	Unit
(a) Training	Provisional Sum
(b) Contractor's charge to allow for handling cost and profit in respect of subitem B12.06 (a)	Percentage (%)

The Prov sum tendered shall include full compensation for the provision of training programs for the contractor's employees and also, where applicable, for sub-contractors.

Eighty per cent (80%) of the amount will be paid when the contractor's personnel and sub-contractors, where relevant, have received training. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

B4 SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B 1302 GENERAL REQUIREMENTS

(a) Camps, construction plant and testing facilities

Add the following:

"There is no area available within the road reserve for the establishment of the contractor's organization, camp and constructional plant on site.

The contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel. No personnel will be allowed to reside on the site. Only night-watchmen may be on the site after hours.

The contractor shall be responsible for the security of his personnel, construction plant on and around the site of the works, and of his camp. The cost of this will be deemed to be included in item B13.01.

“The contractor's offices, laboratory and stores shall, unless otherwise agreed, be erected in close proximity to the engineer's offices and laboratory. The entire area shall be fenced with a minimum of 1,8m height razor taped mesh. The contractor's offices, laboratory and stores and engineer's offices and laboratory shall be provided with sufficient perimeter lighting.

The contractor shall provide security guards from a reputable security company for protection of the engineer's offices and laboratory. The security guards must be provided with a two way radio and be in constant contact with the control room of the security company and an armed response unit. The security guards must be armed and accompanied by trained guard dogs. Payment for the above shall be included in item B13.01.”

“The contractor shall provide at each work site at least one portable chemical latrine unit per 10 workers for use by construction workers employed on the project. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the satisfaction of the engineer. The contractor shall move them to the required positions, and finally remove them, on completion of the works, all to the satisfaction of the Health Department of the relevant authority. Toilets must be screened from public view and their use shall be enforced. No separate payment shall be made for this requirement and payment shall be deemed to be included in the rates tendered for the contractor's time-related obligations.”

B1303 PAYMENT

Item	Unit
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B13.01	Contractor's general obligations
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Add the following after (c) Time-related obligations:

- (d) Relocation of contractors general obligations & relevant items under Section 1200 & Section 1400, allowing for relocation distance of 8km.

Add the following after the fifth paragraph:

"The combined total tendered for sub-items (a), (b) and (c) shall **not exceed 15% of the tender amount of that particular phase of the contract**, excluding VAT and contingencies.

Should the contractor be of the opinion that 15% is inadequate to cover his costs in terms of section 1300, he shall indicate separately with his tender where such costs have been allowed for in his tender. If no such indication is given, the contractor shall not at any stage during the contract for any reason whatsoever claim additional compensation under this item. "

(a) General

"It is a requirement of the contract that the offices for the engineer's supervisory staff shall be supplied with approved burglar proofing, the cost of which shall be included in the relevant tendered rates."

“A complete telephone service together with fax equipment shall be provided. The cost of telephone and cell phone calls and fax transmissions are included in the prime cost sum for the provision of the telephone service.

Description	Area
• Office for the engineer's personnel	4 x12m ²

"Ablution unit is required on site. Unit shall contain at least a wash-hand basin, flush toilet, urinal, shower unit and the necessary accessories.

The towels shall be replaced with clean towels every second day and soap supplied as necessary.

The ablation units shall each have an interior floor area of at least 10m² and a 1,5m wide veranda on one side with a 100mm concrete floor.

The tendered rate under Item B14.01(e) shall include full compensation for the supply, erection and maintenance of the complete units as specified.”

“(d) Kitchen units

The contractor shall provide a kitchen unit with minimum interior floor area of 12m², a 1,5m wide veranda on one side with a 100 mm thick concrete floor in the vicinity of the offices.

Each unit shall contain at least two opening windows, a lockable door, a two-plate electrical stove without oven, a steel framed formica topped table (0,6 m x 1,2 m), four steel framed bar or kitchen stools, a lockable refrigerator of one hundred and fifty litres capacity, a kitchen sink supplied with clean hot and cold potable water, a drain board coupled to a suitable drainage system and a lockable steel grocery cupboard."

B1403: HOUSING

(c) Rented accommodation

Add the following:

"The engineer may arrange for the obtaining of rented accommodation for his supervisory personnel on site. Payment of such rent shall be made under the provisional sum in subitem 14.07(a) and shall be expended on a monthly basis by the contractor as ordered by the engineer."

B1404 SERVICES

(b) Water electricity and gas

Add the following:

"The supply of electricity and water to the offices and laboratories of the engineer's supervisory staff shall be maintained 24 hours per day. The power supply shall be regulated by a suitable voltage regulator in order to maintain a constant current and voltage level at all times to prevent damage to the office and laboratory equipment and related machinery during power surges. Payment for the voltage regulator shall be deemed to be included in the rates tendered for the supply of power. In the event of damage to the office and laboratory equipment and related machinery because of a faulty voltage regulator, the contractor shall be liable for payment of all repair or replacement costs of such damaged items.

A diesel driven generator plant must be provided to the site that must automatically engage in the event of a power failure to ensure an uninterrupted electric supply to the offices and the laboratory. The cost of this plant shall be included in rates tendered for supply of services to the offices and laboratory."

B1406: MEASUREMENT AND PAYMENT

Change the unit of measurement of Item 14.01(e) to "number" and renumber as follows:

Item	Unit
B14.01 (e) Ablution units	number (No.)

Add the following subitem to item 14.01:

Item	Unit
B14.01 (g) Kitchen units	number (No.)

The unit of measurement and payment shall be the authorized number of units erected, complete and in accordance with the specifications, together with all items as specified in Clause B1402.

The tendered rate shall include full compensation for the supply and erection of units, accessories, furniture, etc. as specified and for the proper maintenance, cleaning and provision of daily requirements.

B6

SECTION 1500: ACCOMMODATION OF TRAFFIC

B1501 SCOPE

Add the following:

"It is a condition of this contract that traffic is accommodated in accordance with the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is Volume 2, Chapter 13 of the June 1999 edition. Copies of this publication are available from the South African National Roads Agency Limited, P.O. Box 415, Pretoria, 0001."

B 1502 GENERAL REQUIREMENTS

(a) Safety

Add the following:

"The Contractor shall take all precautions necessary to programme and conduct his construction operations in such a manner that inconvenience and annoyance to public traffic, property owners and road users is kept to a minimum. The Contractor shall also ensure that safety requirements are strictly enforced at all times.

The Contractor shall be responsible for maintaining the existing road surface within the site of the Works in a safe and trafficable condition for the duration of the contract.

The Contractor, before starting work on any part of the site or at any position, shall submit to the Engineer his method statement and programme for accommodating traffic on that section."

(e) Access to properties

Add the following:

"Where the alignment of the new road coincides with the alignment of the existing road, a number of accesses to private properties will have to be operational and maintained during the constructional period. No separate payment will be made for providing acceptable and safe access across the new road at all times during construction of the road."

(i) Traffic safety officer

Add the following to the second paragraph:

"The Contractor shall submit a CV of the candidate to the engineer for approval before the Traffic Safety Officer is appointed. The Traffic Safety Officer shall be available to discuss road safety and traffic accommodation matters whenever required by the engineer."

Replace 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 shall be adequately referenced from identifiable permanent features or survey points located on 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. Such changes shall include the recording of the position of flagmen and STOP/GO control men and their associated traffic accommodation equipment wherever used.

(iii) Personally inspect the position and condition of each traffic accommodation feature on the entire site of works twice each day before 09:30 and at 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 midday of the next working day. The Traffic Safety Officer shall keep a duplicate book for this specific purpose.

The Traffic Safety Officer shall also submit with this report to the engineer the daily labour returns of flagmen, STOP/GO and traffic signal control men employed."

Add the following new sub clauses:

- (ix) The Traffic Safety Officer shall be equipped with a cellular telephone and shall have a vehicle and 3 labourers at his disposal 24 hours 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 3 tons and shall be equipped with a high visibility rear panel in accordance with the requirements of Volume 2 Chapter 13 of the South African Road Traffic Signs Manual. The words "TRAFFIC CONTROL" shall be written on the high visibility panel in highly legible letters not less than 140mm high.

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 Traffic Safety Officer, the Traffic Safety vehicle, the driver and three labourers and the cost of the cellular telephone shall be deemed to be included in the rate tendered for Pay Item B15.01: Accommodation of traffic and maintaining temporary deviations.

- (x) Ensure that all obstructions related to the contractor's activities be removed before nightfall where applicable and as instructed by the engineer and that the roads are safe for night traffic.
- (xi) 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 be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.
- (xii) In the event of an accident, record details of the accident in a written report, to a format agreed with the engineer accompanied by photographs and a neat sketch plan on which is shown identifiable permanent features, relevant dimensions and the position of all temporary traffic control facilities or other devices used for traffic accommodation."

Add the following new sub clauses:

"(j) Overnight parking of plant

During non-working hours, all plant and traffic hazards shall be removed from the road and all signs no longer applicable to the situation shall be removed or effectively covered. No plant shall be left adjacent to the road during overnight parking.

Plant which is impractical to be parked at the contractor's camp may be parked at the construction site, provided it is parked at least 5 m from the edge of the road surface.

(k) Use of reflective safety jackets

The Contractor shall ensure that all site 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 in proximity of the travelled way. The safety jackets shall be of an approved Level 2 type, bright/fluorescent orange, red-orange or yellow in colour with retro-reflective strips as indicated in Chapter 13 of Volume 2 of the South African Road Traffic Signs Manual (SARTSM), Figure 13.30 (Detail 13.30.2). Any person found not wearing a reflective safety jacket under these circumstances shall be removed from the site until such time as he/she 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.

The provision of these safety jackets shall be deemed to be included in the rate tendered for item B15.01 : Accommodation of traffic and maintaining temporary deviations.

(l) Failure to comply with provisions

Failure or refusal on the part of the contractor to take the necessary steps to ensure the safety and convenience of the traveling public, accommodation of traffic, and the provision of plant and personnel in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause for the engineer to impose penalties as follows:

- A fixed penalty of R5 000-00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.
- In addition a time-related penalty of R500-00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given."

(m) Handing over the site

The total extent of the site between the limits of construction as described in this document and indicated on the drawings will be handed over to the contractor at the commencement of the contract period. The engineer however reserves the right to adjust this arrangement should progress or safe passage of traffic warrant such a change.

(n) Use of explosives in close proximity of temporary deviations

The contractor shall arrange all necessary traffic control and other requirements to safeguard the traffic on temporary deviations during blasting operations.

(o) Land taken up for deviations

Negotiations with landowners to obtain the land taken up by temporary deviations will be undertaken by the employer. A prime cost sum is allowed in the bill of quantities for payment of compensation to affected landowners. All other negotiations regarding temporary access to properties, land-use, fencing requirements etc. shall be dealt with by the contractor in conjunction with the engineer and be confirmed in writing and be kept on record by the contractor.

B 1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

Replace the first sentence of the first paragraph 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 the project specifications, the South African Road Traffic

Signs Manual (SARTSM) and as shown on the drawings and remove them when no longer required. It shall be incumbent upon the contractor to ensure that the abovementioned traffic-control devices are present where required at all times and are functioning properly.≡

Replace the third paragraph with the following:

“The type of construction, spacing and placement of traffic-control devices shall be in accordance with the SARTSM. The recommended arrangements of the traffic control devices illustrated and/or drawings issued by the engineer shall not be departed from without prior approval of the engineer. The arrangements expected to be most commonly used in the contract are given on the tender drawings.

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 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, lost, or stolen.

All temporary road signs required to be moved often 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 in the tendered rates for the various types of temporary road signs.

The covering of permanent road signs, if applicable, shall be by utilizing a hessian bag that shall be pulled over the sign in the form of a hood and fastened to the signposts. Plastic bags or other materials and fastened by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be included in the tendered rates of items B15.01 and B15.10.”

(d) Channelization devices and barricades

Add the following:

“The use of drums as channelization devices shall not be permitted. Drums may however be used to set up barriers as provided for in sub clause 1503(d).

Delineators shall:

- (i) comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as indicated on the drawings;
- (ii) have smooth and round edges and be mounted on a post and base. All components shall be of durable plastic material;
- (iii) have the lower edge of the reflective part of the delineator mounted not lower than 250mm above the road surface;
- (iv) be capable of withstanding the movement of passing vehicles and gusting winds up to 60 km/h in typical working conditions without falling over. To achieve this, the base shall be at least 0,18 m² and ballasted by sandbags with sand;
- (v) together with its mounting be designed such that it will collapse in a safe manner under traffic impact.

Traffic cones manufactured in a fluorescent red-orange or red plastic material may be used only at short term lane deviations during daylight. Cones shall not be used on their own, but shall be interspersed with delineators at a ratio not exceeding 3:1. Cones used on all deviations shall be

750 mm high. Lane closures which continue into the night time shall be demarcated by delineators only."

(e) Warning devices

All construction vehicles utilized on site shall be equipped with visible rotating amber warning lights and these shall be operational at all times when travelling on site or when vehicles are stationary in construction areas. The contractor shall also provide the engineer's site personnel with warning lights for their vehicles (maximum of two (2) lights required). All construction vehicles shall clearly display an identification sign(s) with the legend "CONSTRUCTION VEHICLE" visible from the front and back of the vehicles.

No separate payment shall be made for the provision of warning lights or identification signs for construction vehicles and shall be deemed to be included in the tendered rate for Pay Item B15.01.

Add the following new subclauses:

(g) Maintenance

All temporary traffic control facilities shall be kept clean and maintained in good order at all times.

If the coefficient of retro-reflection of any of the Contractor's signs falls below 80% of the value given in Table 1 of CKS 191 - 1987 (observation angle 0,33 , entrance angle 5,0) for the grade and colour of the material used the sign shall be considered defective and shall either be rectified or removed and replaced.

(h) Sufficiency

The Contractor shall determine, from his proposed programme, the number of temporary traffic-control facilities required and shall not commence with any accommodation of traffic before sufficient traffic-control facilities have been delivered to the site.

The Contractor shall keep sufficient surplus barricades, signs and delineators on or around the site to allow for the replacement of damaged or missing items within a period of two (2) hours of the deficiency being discovered.

The Contractor shall allow in his tendered rates for the replacement of five (5) percent of the traffic-control facilities scheduled. This percentage is to allow for the replacement of traffic-control facilities which become unserviceable or damaged by public traffic or stolen and is beyond the Contractor's control and not the result of his actions or omissions during the period of accommodation of traffic on the site. The replacement of traffic control facilities over and above this five (5) percent of the scheduled items damaged by public traffic or stolen shall be payable at tendered rates."

B 1518 ADDITIONAL REQUIREMENTS

The following additional requirements shall apply:

- The contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from the above, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.
- No section of the road shall be closed to traffic during the construction works and at least one lane in each direction shall be open to traffic at all times.

- 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.
- Failure to maintain road signs, warning signs or flicker lights, etc. in a good condition shall constitute ample reason for the engineer to bring the works to a stop until the road signs, etc. have been repaired to his satisfaction.
- The contractor may not commence construction activities 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 submit proposals for each traffic accommodation in connection with directional signs to the engineer for approval.

B7

SECTION 1600: OVERHAUL

B 1602 DEFINITIONS

(a) Overhaul material

Add the following:

- (vii) Any material, irrespective of the type of material, which is removed from the existing pavement layers and spoiled at designated spoil sites, or is re-used in other parts of the works or to approved stockpiles or from stockpiles to any part of the works.

(b) Overhaul

Add the following:

Overhaul shall not be payable on materials transported from commercial sources. Payment shall only be made for material hauled in excess of 1 kilometre. Overhaul shall be measured as the product of the volume of material hauled and the overhauled distance.

(d) Free-haul distance

Replace the last sentence with:

“This distance shall be 1 kilometre in the case of all overhaul materials”

Add the following subclause:

“(f) Cleaning of public roads

Where material is spoiled on public roads during the haul of material, the road shall be cleaned immediately. Claims by the public for any damages to vehicles whatsoever will not be accepted by the employer and shall be the responsibility of the contractor.”

C3.9 PARTICULAR SPECIFICATIONS

In addition to the Standardized and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

SECTION EMP	ENVIRONMENTAL MANAGEMENT SPECIFICATION
SECTION DWK	DAY WORKS
SECTION OHS	OHSA 1993 SAFETY SPECIFICATION

SECTION EMP: ENVIRONMENTAL MANAGEMENT SPECIFICATION

EMP.1 General

In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Plan (EMP) guidelines is required. The EMP is bounded to this document under Part C4: **Site Information**. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimize disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,
 - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimize adverse environmental impact,
- Develop waste management practices based on prevention, minimization, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

EMP.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, sub-contractors and suppliers.

EMP.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the site manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter etc),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

EMP.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Engineer and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m bonnox fence or similar

approved.

- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

EMP.5 Access

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

EMP.6 Borrow Pits

- Mining authorizations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs and Forestry (DWAF).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWAF.
- Borrow pits will be fenced and the necessary warning signs will be erected.

EMP.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

EMP.8 Fauna

- Contractor staff may not chase, catch or kill animals encountered during construction.

EMP.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owner's lands.

EMP.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

EMP.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with

appropriate protective clothing/equipment in case of spillages or accidents.

- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The contractor should keep Peat, Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

EMP.12Noise

- Noise generating activities must be restricted to between 07:00 and 17:00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

EMP.13Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

EMP.14Rivers and Streams

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

EMP.15Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside the road during the operation phase in order to control traffic.
- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

EMP.16Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimized by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should

- be removed together with the contaminated soil.
- If necessary, an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and re-fueling of vehicles must only be carried out at construction camp.

EMP.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

EMP.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

EMP.19 Vegetation

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

EMP.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc.) must be stored in leak proof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimize the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Project Manager.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets etc.) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section EMP11 and EMP16.

SECTION DWK: DAY WORKS

This part of the Project Specifications deals with the provision for Day works in the Schedule of Quantities. Rates for Day works shall be entered in Section 1800 of the Schedule of Quantities in accordance with the following specifications.

DWK. 1 SCOPE

According to clause 37.2 of the General Conditions of Contract for construction works (GCC) 2010 edition, certain work may be carried out using rates tendered in the day work schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a day work basis is included in the schedule of quantities. The quantities used in the schedule are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 37 of the General Conditions of Contract 2010 edition.

No work will be paid for as Day works without the written instruction or approval of the Engineer.

DWK. 2 TYPE OF WORK

The Engineer may order day work in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Engineer. Day works will only be used in exceptional circumstances.

DWK. 3 MATERIALS

Materials for use in works carried out under Day work shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section 1800 for Day work materials. The Contractor shall enter a tendered percentage in the schedule to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in the Pricing Data. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in Day works with his day works claim to the Engineer. Further, if specific materials are required for Day works, quotations will be called for as per Clause 37.2.4 of the General Conditions of Contract 2010 edition.

DWK. 4 CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section 1800 shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 37.2.3 of the General Conditions of Contract 2015 3rd edition will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fueling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the day works.

DWK. 5 SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in Section 1800. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the day works.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the DAY WORKS rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis

DWK. 6 MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of day works.

The unit of measurement for plant shall be the number of vibroclock hours worked and each item of plant shall be fitted with a vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Sub-clauses 37.2.5 and 37.2.6 of the General Condition of Contract 2010 edition with regard to the submission of day works claims.

SECTION OHS: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

OHS.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Working high above the ground on top and below the bridge, most of the time in a restricted environment with limited landings (working platforms)
- Working above a continuously flowing river and in an flood plain environment subject to flooding
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds
- Steep and restricted access to the lower flood plain below the bridge
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, on the bridge, buried and overhead
- Deep excavations in soils requiring shoring or reducing of slopes
- Blasting of hard rock or demolition of concrete
- High pressure during testing of the relocated pipe lines, which could result in potentially dangerous situations in the event of the pipeline or fittings failing
- Potentially harmful gasses when tying into the existing sewer mains
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Falling debris, tools and materials from bridge
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

OHS.2 DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **Employer** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as **"client"** as defined in the Construction Regulations 2014. **"Employer"** and **"client"** is therefore interchangeable and shall be read in the context of the relevant document.
- (b) **"Contractor"** wherever used in the contract documents and in this specification, shall have the same meaning as **"Contractor"** as defined in the General Conditions of Contract.

In this specification the terms **"principal contractor"** and **"contractor"** are replaced with **"Contractor"** and **"subcontractor"** respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (c) “**Engineer**” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

OHS.3 TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 7 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in his tender for the cost of the health and safety measures envisaged in the Construction Regulations.
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

OHS.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 4, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (e) excavation work deeper than 1,0m; or
- (f) working at a height greater than 3,0m above ground or landings.

The notification must be done in the form of the pro forma included under Section 9 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

OHS.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

OHS.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

OHS.7 APPOINTMENT OF SAFETY PERSONNEL

7.1 Construction Supervisor

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

7.4 Health and safety committee

In terms of Sections **17 and 18 of the Act (OHSA 1993)** the Contractor (as employer), shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing. The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 9 of the Construction Regulations;
- (b) Fall protection as described in Regulation 10;
- (c) Excavation work as described in Regulation 13;
- (d) Demolition work as described in Regulation 14;
- (e) Scaffolding work as described in Regulation 16;
- (f) Suspended platform operations as described in Regulation 17;
- (g) Material hoists as described in Regulation 19;
- (h) Bulk Mixing plant operations as described in Regulation 20;
- (i) Explosive actuated fastening device as described in Regulation 21;
- (j) Cranes as described in Regulation 22;
- (k) Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 23(1);
- (l) Control of all temporary electrical installation on the construction site as described in Regulation 24;
- (m) Stacking and storage on construction sites as described in Regulation 28; and
- (n) Fire precautions on construction sites as described in Regulation 29.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

OHS.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHSA 1993 Construction Regulations 2014;
- (b) A copy of this Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 7);
- (d) A copy of the Notification of Construction Work (Regulation 4);
- (e) A health and safety file in terms of Regulation 7(1b) with inputs by the Construction Safety Officer (Regulation 8(5));
- (f) A copy of the risk assessment described in Regulation 9;
- (g) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10;
- (h) Drawings pertaining to the design of structures (Regulation 11(1c)) and temporary works (Regulation 10) must be kept on site;
- (i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13(2)(h));

- (j) A copy of the certificate of the system design for suspended platforms (Regulation 17(3));
- (k) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 11(2));
- (l) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19(8));
- (m) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 19(8));
- (n) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21(2));
- (o) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1) (k)).

OHS.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHS 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHS 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

(a) Contractor's position in relation to the Employer (Client) (Regulation 5)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 7)

The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Principle Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 7.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2014.

(c) Management Supervision of construction work (Regulation 8)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 8 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 8.

(d) Risk assessment for construction works (Regulation 9)

The Contractor shall have the risk assessment made as set out in paragraph 3 above before commencement of the work and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 9.

(e) Fall protection (Regulation 10)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 10 of the Construction Regulations.

(f) Structures (Regulation 11)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures, unless it can be proved that such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition, the Contractor shall comply with all aspects of Regulation 11 of the Construction Regulations.

(g) Temporary works (Regulation 12)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 12 of the Construction Regulations shall be followed in every detail.

(h) Excavation (Regulation 13)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 13 of the Construction Regulations.

(i) Demolition work (Regulation 14)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 14 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 15)

The Contractor shall comply with Regulation 15 wherever tunneling of any kind is involved.

(k) Scaffolding (Regulation 16)

The Contractor shall ensure that all the provisions of Regulation 16 of the Construction Regulations are complied with. [Note: Reference in the Regulations to "Section 44 of the Act" should read "Section 43 of the Act"].

(l) Suspended platforms (Regulation 17)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 17 of the Construction Regulations.

(m) Rope Access (Regulation 18)

Where rope access is required on the construction site, the Contractor shall comply with Regulation 18.

(n) Material Hoists (Regulation 19)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 19 to the letter.

(o) Bulk Mixing plants (Regulation 20)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 20. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive actuated fastening devices (Regulation 21)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 21 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 22)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 22 shall be complied with.

(r) Construction vehicles And mobile plant (Regulation 23)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 23.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 24)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 24.

(t) Use of temporary storage of flammable liquids on construction sites (Regulation 25)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 25 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 26)

Where construction work is done over or in close proximity to water, the provisions of Regulation 26 shall apply.

(v) Housekeeping and general safeguarding on construction sites (Regulation 27)

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 27 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 28)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions Regulation 28 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 29)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition, the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 29 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 30)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 30 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 4 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

OHS.10 MEASUREMENT AND PAYMENT

10.1 Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 9.1 to 9.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be in the Contractor's tendered rates and prices.