



GREATER GIYANI MUNICIPALITY

**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBI TAXI RANK**

CONTENTS

BOOK 2

THE TENDER

PART T1: TENDERING PROCEDURES

- T1.1 Tender Notice and Invitation to Tender (White pages)
- T1.2 Tender Data (Pink pages)

PART T2: RETURNABLE DOCUMENTS

- T2.1 Returnable Schedules required for Tender Evaluation (Yellow pages)
- T2.2 Other Documents required for Tender Evaluation (Yellow pages)
- T2.3 Returnable Schedules that will be incorporated into the Contract (Yellow pages)

THE CONTRACT

PART C1: AGREEMENT AND CONTRACT DATA

- C1.1 Form of Offer and Acceptance (White pages)
- C1.2 Agreement in Terms of the Occupational Health & Safety Act (White pages)
- C1.3 Performance Guarantee (White pages)
- C1.4 Abstracts of the Mine Health and Safety Act No.29 of 1996 and Amendment Act No.72 of 19997 (White pages)
- C1.5 Contract Data (Yellow pages)

PART C2: PRICING DATA

- C2.1 Pricing Instructions (Yellow pages)
- C2.2 Bills of Quantities (Yellow pages)
- C2.3 Summary of Bill of Quantities (Yellow pages)
- C2.4 Calculation of Tender Sum (Yellow pages)

BOOK 2

PART C3: SCOPE OF WORK

- C3.1 Description of Works (Blue pages) C.82
- C3.2 Engineering (Blue pages) C.85
- C3.3 Procurement (Blue pages)..... C.86
- C3.4 Construction (Blue pages) C.90

PART C4: SITE INFORMATION

- C4.1 Site Information (Green pages) C.179
- C4.2 Locality Plan (White pages) C.180

PART C5: ANNEXURES

- C5.1 : Proforma Documents (White pages)..... C.182
- C5.2 : Ministerial determination no.3 : Expanded Public Works Programmes C.194
- C5.3 : Requirements of Expanded Public Works Programme (White pages) C.215
- C5.4 : Contract Drawings (White pages) C.217



GREATER GIYANI MUNICIPALITY

**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBI TAXI RANK**

THE CONTRACT (Continue)

PART C3	SCOPE OF WORKS
PART C4	SITE INFORMATION

PART C3: SCOPE OF WORK

C3.1	DESCRIPTION OF WORKS	C.82
C3.2	ENGINEERING.....	C.85
C3.3	PROCUREMENT.....	C.90
C3.4	CONSTRUCTION.....	C.78

C3.1 DESCRIPTION OF WORKS

The scope of works to be executed entails the construction of 3800m² taxi rank, under cover taxi loading area with steel canopy structures and an office block including a store room.

C3.1.1 Employer's Objectives

Completion of works will improve the socio economic status of the end users/beneficiaries as they will be able to carry out their daily activities in a more conducive environment e.g. paving on taxi rank and covered off-loading bays.

The client intends to ensure maximum generation of employment in the process of delivering the final product for the end user by adopting labour intensive construction methods.

"Labour Intensive works comprise the activities described in the Labour Intensive Specification. Such works shall be constructed using local workers who are temporarily employed in terms of this scope of works"

C3.1.2 Overview of Works

The following proposed scope of works is recommended:

- The project entails the construction of 3800m² Ndhambi Taxi Rank.

The project is located in a summer rainfall region with rainfall that occurs mainly in storms of short duration with high intensities. The typical temperatures vary between 28°C in summer and 16°C in winter.

C3.1.3 Extent of Works

General works that will be executed will include the following:-

- The scope of works to be executed entails the construction of 3800m² taxi rank, under cover taxi loading area with steel canopy structures and an office block including a store room
- 3800m² paved parking area with 80mm interlocking concrete paving blocks.
- Access road/Filter lane.
- Septic Tank & French drain.
- Drilling and equipping of borehole.
- Elevated plastic tank 10kl.
- Concrete palisade fencing.
- Erection of high mast lights.

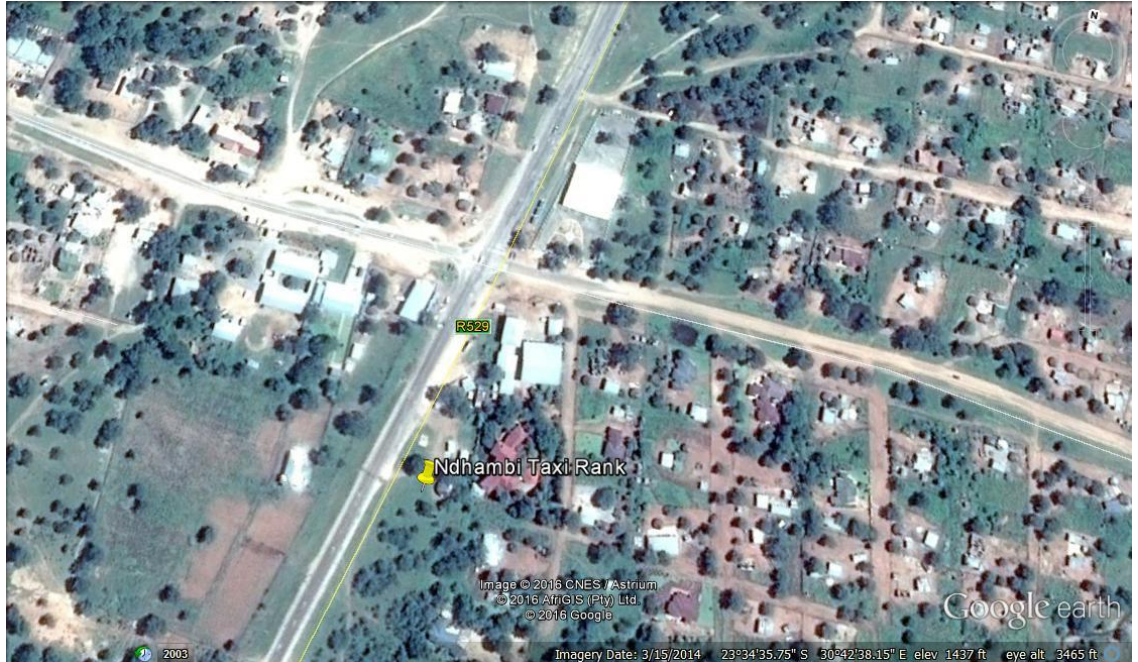
C3.1.4 Location of the Works

Ndhambi taxi rank is located at the intersection of road D1267 and a local road in Ndhambi village under the jurisdiction of the Greater Giyani Municipality within Mopani District Municipality in Limpopo Province.

The coordinates are shown in the table below:

Ka-Ndhambi Village	South	East
	23°34'39.84"S	30°42'35.62"E

The Google earth image is shown below:



C3.1.5 Temporary Works

During the construction period a temporary trafficable route will be provided for the vehicle traffic especially during the construction of the access road/ filter lane to the taxi rank to enable safe access to the rank.

C3.1.6 General Information

C3.1.6.1 Drawings

The reduced drawings contained in Annexure C5.2 that form part of the tender document shall be used for tender purposes only. Further drawings are to be provided on an on-going basis by the engineer.

The contractor will be supplied with an unreduced 0,05 mm thick transparent polyester print of each of the drawings. These polyester prints are issued free of charge and the contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the contractor, which the resident engineer requires to complete the as-built drawings, shall be supplied to the resident engineer before a certificate of completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.

C3.1.6.2 Power, Water Supply and Other Services

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

services are required.

C3.1.6.3 Contractor's Camp Site and Security

The contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel and all regulations stipulated by the local authority shall be adhered to.

It is anticipated that the contractor's choice of a camp site will be influenced by the availability of telephone and electrical connections as well as the supply of potable water.

Provision is made in these specifications for the erection of a security fence around the site offices. The contractor shall be responsible for the security of his personnel and constructional plant on and around the site of the works and for the security of his camp, and the employer will consider no claims in this regard.

C3.1.6.4 Additional Requirements for Construction Activities

C3.1.6.4.1 The contractor may not commence constructional 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.

C3.1.6.4.2 The contractor shall submit proposals in connection with directional signs to the engineer for approval.

C3.1.6.5 Programme Requirements for Construction Activities

The contractor shall programme his activities to be suitable in terms of his resources to complete the contract inside the stipulated time period.

C3.1.6.6 Construction in Confined Areas

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

C3.1.7 Labour Regulations

C3.1.7.1 Payment for the labour-intensive component of the works

Payment for works identified in clause 2.3 "the Extent of the Project" in the Project Specifications as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.1.7.2 Applicable labour laws

Refer to Annexure C5.3 and C5.4

C3.2 ENGINEERING

C3.2.1 Design

- (a) The **Employer** is responsible for the design of the permanent Works as reflected in these Contract Documents unless otherwise stated.
- (b) The **Contractor** is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- (c) The **Contractor** shall supply all details necessary to assist the engineer in the compilation of the as-built drawings.

C3.2.2 Employer's Design

- (a) Detail description of Works
- (b) General Works
- (c) Sign Gantries. E.g.

C3.2.3 Contractor's Design

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 Design procedures

All designs and modifications thereto shall be communicated in writing and the contractor and engineer shall maintain master lists to record and track all transactions.

C3.3 PROCUREMENT**PREFERENTIAL PROCUREMENT POINT SYSTEM POLICY****C3.3.1 DEFINITIONS****1. DEFINITIONS**

The words in this policy shall bear a meaning as prescribed and/or ascribed by applicable legislation, and in the event of a conflict, the meaning attached thereto by National Legislation shall prevail.

- (a) "Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000);
- (b) "Comparative price" means the price after the factors of a non-firm price and all unconditional discounts that can be utilised have been taken into consideration;
- (c) "Consortium or Joint Venture" means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;
- (d) "Contract" means the agreement that results from the acceptance of a tender by an organ of state;
- (e) "Disability" means, in respect of a person, a permanent impairment of a physical, intellectual, or sensory function, which results in restricted, or lack of, ability to perform an activity in the manner, or within the range, considered normal for a human being;
- (f) "Firm price" is the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, 'levy, or tax, which, in terms of a law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- (g) "Management" in relation to an enterprise or business, means an activity inclusive of control and performed on a daily basis, by any person who is a principal executive officer of the company, by whatever name that person may be designated, and whether or not that person is a director;
- (h) "Non-firm prices" means all prices other than "firm" prices;
- (i) "Person" includes reference to a juristic person;
- (j) "Rand value" means the total estimated value of a contract in Rand denomination which is calculated at the time of tender invitations and includes all applicable taxes and excise duties;
- (k) "Sub-Contracting" means the primary contractor's assigning or leasing or making out work to, or employing,
- (l) "Trust" means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person;
- (m) "Trustee" means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.
- (n) "Individual" an individual shall mean a natural person;
- (o) "The Municipality" means the Greater Giyani Municipality.;
- (p) "Companies and Shares" shall be read so as to include Close Corporations and members interests *mutatis mutandis*;

(q) "Historically Disadvantaged Individual (HDI)" means a South African citizen –

(1) Who, due to the apartheid policy that had been in place, had no franchise in national elections prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act No 110 of 1983) or the Constitution of the Republic of South Africa, 1993 (Act No 200 of 1993) ("the Interim Constitution"); and/ or

(2) Who is a female; and / or

provided that a person who obtained South African citizenship on or after the coming to effect of the Interim Constitution, is deemed not to be an HDI;

(s) "Tender" means a written offer or bid in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services or goods;

(t) "Collusion" means an intentional and unlawful agreement by two or more companies/firms which is intended or calculated to misrepresent facts or defraud with the sole purpose of influencing the procurement process thereby prejudicing the interests of the service provider.

GREATER GIYANI MUNICIPALITY

MUNICIPAL SUPPLY CHAIN MANAGEMENT

MODEL POLICY

Model policy for adoption by municipalities and municipal entities in terms of section 111 of the Municipal Finance Management Act, No 56 of 2003, and the Municipal Supply Chain Management Regulations.

Instructions:

1. Review this model policy to ensure it meet the needs and requirements of the municipality or entity, amend where required.
2. Insert the name of municipality or entity and other variable information where required throughout the policy. Delete all notes and instructions contained in boxes.
3. Municipal entities must substitute the term “board of directors” wherever ”council” appears in the policy.
4. The accounting officer is responsible for implementing the policy and must ensure it is promptly prepared and submitted to council or the board of directors for adoption (regulation 3).
5. Municipal entities must ensure their policy is consistent with the parent municipality, to the extent determined by the parent municipality (regulation 2(2)).
6. If the accounting officer submits a draft policy to the council or board of directors that differs from the model policy, the accounting officer must ensure that such draft policy complies with the regulations. The accounting officer must report any deviation from the model policy to the National Treasury and the relevant provincial treasury (regulation 3).
7. The accounting officer must at least annually review the policy and where necessary submit proposals for amendment to the council or board or directors (regulation 3).

GREATER GIYANI MUNICIPALITY
MUNICIPAL SUPPLY CHAIN MANAGEMENT POLICY
LOCAL GOVERNMENT: MUNICIPAL FINANCE MANAGEMENT ACT, 2003

The 90/10 score distribution will be adopted with the points allocated as follows;

Price:	90 points
Specific Contract Participation Goals:	10 points

Functionality will be evaluated as a separate section before the 90/10 point scoring system is enforced and the tenders that would have not scored above the minimum of 60% for functionality will not be considered when the bids are evaluated using the 90/10 point scoring system.

3.4 CONSTRUCTION

C3.4.1 STANDARD SPECIFICATIONS

- (a) The following specifications shall apply for the construction of the Works.
- (i) The COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998).

The contractor may purchase copies of Volume (i) from the South African Institution of Civil Engineers.

SAICE
Waterfall Park / Postnet Suite 81
Howick Gardens / Private Bag X65
Vorna Valley / Halfwayhouse
Becker Street / 1685
Midrand

Tel : (011) 805-5947
Fax : (011) 805-5971
Contact Person : Angeline Aylward

- (b) SABS or BS Specifications and Codes of Practice

Wherever any reference is made to the South African Bureau of Standards (SABS) and the British Standards Specification (BSS) in either these Bill of Quantities or the Specification of Materials and Methods to be Used (OOG-001E), this reference shall be deemed to read "SABS or equivalent standard" and BS or equivalent standard" respectively.

- (c) Various other specifications specified in the COLTO Standard Specifications or the Project Specifications.
- (d) Latest **Sabita Manual**, Manual 25 entitled "*Quality Management in the Handling and Transport of Bituminous Binders*".

C3.4.2 PROJECT SPECIFICATIONS RELATING TO STANDARD SPECIFICATIONS**C3.4.2.1 General Conditions of Contract Referred to in the Standard Specifications**

The references to the General Conditions of Contract appearing in the COLTO Standard Specifications refer to the COLTO General Conditions of Contract which is superseded in this contract by the General Conditions of Contract for Construction Works 2010, Second Edition. The corresponding clause in the latter document pertaining to the reference in the COLTO Standard Specifications is listed in the table below.

Clause No. in the Standard Specifications	Clause No. in COLTO General Conditions	Equivalent Clause No. in General Conditions of Contract 2010
1202	15	5.6.1
1206	14	Deleted
1209	52	6.10.1
1210	54	5.14.1
1212(1)	49	6.8
1215	45	5.12.1
1217	35	8.2
1303	49	6.8
1303	53	6.11
1303	12	5.3
1303	45	5.12.1
1403	40(1)	6.5
1505	40	6.5
31.03	40	6.5
3204(b)	40	6.5
3303(b)	2	3
5803(c)	40	6.5
5805(d)	40	6.5
6103(c)	40	6.5
Item 83.03	22	5.15
ALL SECTIONS	48	6.6

C3.4.2.2 Amendments to the Standard Specifications

There are no amendments to the Standard Specifications as issued by the Committee of Land Transport Officials (COLTO).

C3.4.2.3 Project Specifications Relating to Standard Specifications

This part of the project specifications deals with matters relating to the standard specifications. Where reference is made in the standard specifications to the project specifications this part shall also contain the relevant information e.g. the requirements where a choice of materials or construction methods are provided for the standard specifications.

In certain clauses the standard specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains some additional specifications and amendments of the standard specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or a new payment item, which does not form part of a clause or a payment item in the standard specifications and is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

Clauses and pay items referring to labour intensive methods are prefixed by L in the project specifications.

Clauses and pay items referring to emerging contractors are prefixed by E in the project specifications.

MATTERS RELATING TO THE STANDARD SPECIFICATIONS

SECTION 1200 : GENERAL REQUIREMENTS AND PROVISIONS	C.94
SECTION 1300:CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS C.102	
SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL	C.103
SECTION 1500: ACCOMMODATION OF TRAFFIC	C.103
SECTION 1700: CLEARING AND GRUBBING	C.106
SECTION 1800: DAYWORK SCHEDULE	C.107
SECTION 2100 : DRAINS	C.108
SECTION 2200 : PREFABRICATED CULVERTS	C.108
SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS	C.110
SECTION 3100: BORROW MATERIALS	C.111
SECTION 3300: MASS EARTHWORKS	C.112
SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL	C.112
SECTION 3500: STABILIZATION	C.112
SECTION 4300 : SEALS: MATERIALS AND GENERAL REQUIREMENTS	C.114
SECTION 4500 : DOUBLE SEALS	C.118
SECTION 5200: GABIONS	C.112
SECTION 5600 : ROAD SIGNS	C.120
SECTION 5700: ROAD MARKINGS	C.121
SECTION 5800: LANDSCAPING AND PLANTING GRASS	C.121
SECTION 5900: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	C.123
SECTION 6400 : CONCRETE FOR STRUCTURES	C.124

SECTION 1200 : GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

Add the following to the fifth paragraph:

“Provision is made in the bill of quantities for payment for searching and exposing of known or unknown services as well as the relocation and/or protection of existing services. Any moving of existing services which may be required within the proclaimed road reserve will be undertaken by the relevant service authorities or by a selected subcontractor if so ordered by the engineer.”

B1204 PROGRAMME OF WORK

(a) General requirements

Amend the word “network” in the fourth line of the first paragraph to read as “bar (Gantt) chart”.

Add the following after the third paragraph:

“The bar-chart programme to be provided by the contractor shall show the various activities in such detail as may be required by the engineer. Progress in terms of the programme shall be updated monthly by the contractor in accordance with the progress made by the contractor.

In compiling the programme of work, the contractor shall indicate and make due allowance for the following, as specified elsewhere in the contract documents:

- The requirements regarding the accommodation of traffic and areas that may be occupied at any time for construction purposes (as indicated on the drawings and specified in Section 1500 of the specifications)
- Requirements regarding the training of labourers and Emerging Contractors (EC's).
- The requirements for work to be undertaken by labourers and work to be undertaken by EC's.

(b) Programme of work for rehabilitation work

Amend the word “network” in the fourth line of the second paragraph to read as “bar (Gantt) chart”.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following to the third paragraph:

“The engineer shall, however, undertake acceptance control tests for the judgment of workmanship and quality, without accepting any obligations vested with the contractor in terms of the contract with specific reference to quality of materials and workmanship.

Such acceptance control test done by the engineer shall not relieve the contractor of his obligations to maintaining his own quality control system.”

Add the following at the end of this clause:

“The engineer shall, for the purpose of acceptance control on products and workmanship, assess test results and measurements in accordance with the provisions of section 8300 of the standard specifications. Where small quantities of work are involved, a lot shall mean a full day's production for a specific item of work subject to acceptance control testing.”

B1206 THE SETTING-OUT OF THE WORK AND PROTECTION OF BEACONS

Add the following:

“The contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith.”

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 borne by the Contractor.”

B1209 PAYMENT

(b) Rates to be inclusive

Add the following:

“VAT shall be excluded from the rates and provided for as a lump sum in the Summary of Bill of Quantities”.

(e) Materials on the site

Add the following:

"In addition, the engineer may at his sole discretion also allow payments under "Materials on Site" in respect of any construction materials if stored off-site providing that:

- (a) The site selected for this purpose is approved by the engineer
- (b) Such land is physically separated from any production plant or operation
- (c) Only materials for use under this contract is stockpiled on such land
- (d) The contractor has provided proof of an agreement with the owner of such land that the owner has no claim whatsoever on any materials stockpiled on such land
- (e) Materials obtained by the contractor for or on behalf of emerging subcontractors (SMME's) shall remain the responsibility of the contractor after payment has been made in respect of materials on site.”

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Add the following after the first paragraph of this clause:

"For the purposes of this contract, extension of time resulting from abnormal rainfall or other forms of inclement weather shall be determined according to the requirements of Method ii (critical-path method).”

Method (ii) (Critical path method)

Delete “(based on a five-day working week)” in the fifth and sixth lines of the second paragraph of the description of this method.

Delete the last sentence of the second paragraph of the description of this method and replace with the following:

“The value of “n” shall be taken as three (3) working days per calendar month.

If normal rainy or inclement weather, resulting in delays, occurs for less than three (3) working days in any calendar month, the difference between the three (3) working days and the actual number of working days on which normal rainy or inclement weather occurred, shall be ignored and not accumulated for the duration of the contract period for the purposes of determining an extension of time due to normal rainy weather, nor due to any other reason.

Items of work on the critical path of the programme of work which are subject to climatic limitations, shall also be considered for extension of time if such items of work are delayed by e.g. cold weather, high winds or other inclement weather conditions.

In this regard, reference shall be made to weather limitations specified for the application of various bituminous products. However, for months during which seal-work cannot be undertaken in terms of the specifications, no extension of time shall be claimed for.

Rainfall records for Giyani Weather Station.

MONTH	AVERAGE RAINFALL (mm)
JANUARY	62.7
FEBRUARY	12.8
MARCH	32.1
APRIL	36.0
MAY	2.3
JUNE	1.9
JULY	2.1
AUGUST	1.8
SEPTEMBER	0.6
OCTOBER	29.5
NOVEMBER	91.9
DECEMBER	103.7
YEAR	377.5

B1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED WORK IS COMMENCED

Add the following subclause:

"(h) No concrete kerbing or concrete drains directly adjoining the bituminous surfacing shall be constructed prior to the completion of the bituminous surfacing."

B1222 USE OF EXPLOSIVES

Add the following subclause:

"(h) Where blasting operations are undertaken in close proximity of temporary deviations, the contractor shall implement all such safeguarding measures as may be required and instructed by the engineer."

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following:

"The total length of the road reserve between the specified limits of construction will be handed over to the contractor on the commencement date. Reference shall, however, be made to the requirements of section 1500 of these specifications where limitations in respect of work-areas are specified. In the event of the non-adherence by the contractor in terms of the mentioned specifications, the engineer shall withdraw such sections of the road reserve as may be justified to ensure suitable progress of the works or safe passage of traffic."

B1229 SABS CEMENT SPECIFICATIONS

Replace the last paragraph of this clause with the following:

"Where reference is made in this specification or the standard specifications to the cement specifications, eg. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SABS ENV 197-1: Cement-composition, specifications and conformity criteria.

Part 1: Common cements.

Furthermore, where reference is made in this specification or the standard specifications to the different cement types, the following new names/types shall apply:

Old product nomenclature	Typical new product nomenclature	
	Cement type	Cement strength class
OPC	CEM I	32,5
	CEM I	32,5R
RHC	CEM I	42,5
	CEM I	42,5R
LASRC	No provision made	No provision made
PC15SL	CEM II/A-S	32,5
	CEM II/A-S	32,5R
	CEM II/A-S	42,5
PC15FA	CEM II/A-V	32,5
	CEM II/A-V	32,5R
	CEM II/A-W	32,5
	CEM II/A-W	32,5R
RH15FA	CEM II/A-V	42,5
	CEM II/A-V	42,5R
	CEM II/A-W	42,5
	CEM II/A-W	42,5R
PBFC	CEM III/A	32,5
	CEM III/A	32,5R
PFAC	CEM II/B-V	32,5
	CEM II/B-W	32,5
RH30SL	CEM II/B-S	32,5R
	CEM II/B-S	42,5
RH40SL	CEM III/A	32,5R
	CEM III/A	42,5

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

Add the following new clauses:

“B1230: IN-SERVICE TRAINING

The contractor shall implement in-service training. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

(a) Details of in-service training

- (i) The contractor shall attach to form RDP 1(E) basic details of his proposed in-service training programme, which details shall inter alia include the following:
 - the details of training to be provided
 - the manner in which the training is to be delivered
 - the number and details of trainers to be utilised.
- (ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.
- (iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

- (iv) All labourers shall be remunerated in respect of all time spent undergoing training.
- (v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:
 - the name of the contractor
 - the name of the employee
 - the name of the project/contract
 - the nature of the work satisfactorily executed by the worker and the time spent thereon
 - the nature and extent of training provided to the worker
 - the dates of service.

The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

B1231 COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer.

The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

- (i) To be available on site daily. His normal working day will extend from 07:00 in the morning until 17:00 in the afternoon, with one hour lunch each working day.
- (ii) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
- (iii) To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
- (iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
- (v) To attend all meetings in which the community and/or labour are present or are required to be represented.
- (vi) To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
- (vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
- (viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- (ix) To keep a daily written record of his interviews and community liaison.
- (x) To attend monthly site meetings to report on labour and RDP matters.
- (xi) All such other duties as agreed upon between all parties concerned.
- (xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).

(b) Payment for the community liaison officer

A special pay item is incorporated in section 1200 of the bill of quantities relating to payment of the liaison officer on a prime cost sum basis. This payment shall only be made for the period for which the duties of the liaison officer are required and not necessarily for the full duration of the contract. The remuneration of the CLO shall be determined jointly by the contractor, engineer and employer.

(c) Period of employment of the community liaison officer

The period of employment of the community liaison officer shall be as decided upon jointly by the contractor, engineer and employer.

B1232 SUBCONTRACTORS

Over and above the stipulations of clause 8 of the General Conditions of Contract 1998, regarding subletting of part of the works, it is a condition of the contract that an approved subcontractor shall not sublet part of his work, covered in his appointment by the main contractor, to another subcontractor without the consent and approval of the engineer. Subletting shall in all cases be critically considered by the engineer.

In addition to the provisions of clause 8 of the general conditions of contract regarding subcontracting of the works, it is a requirement of this contract that an approved subcontractor shall not further subcontract work subcontracted to him by the main contractor, to another subcontractor without the consent and approval of the engineer. Subcontracting shall in all cases be critically considered by the engineer. The engineer reserves the right to limit the extent or the volume of work subcontracted by the contractor, should he deem it necessary in terms of progress or quality of workmanship.

B1233 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.

B1234 MEASUREMENT AND PAYMENT

Add the following items:

ITEM	UNIT
B12.01	Provisional Sum
Locating Existing Services	
"ITEM	UNIT
B12.02	cubic metre (m ³)
Hand Excavation to determine the positions of existing services	
To determine the positions of existing services	
Measurement and payment shall be as specified for item 22.01 in the standard specifications.	
ITEM	UNIT
B12.03	Prime Cost Sum
Quality Control Test Ordered by the Engineer	
Quality Control Test Ordered by the Engineer	
ITEM	UNIT
B12.04	Month
Provision for a Community Liaison Officer	
Provisional sum for the payment of the Community Liaison Officer	
ITEM	UNIT
B12.05	Provisional Sum
Provisional sum for protection and/ relocation of existing services by others	
Provisional sum for the payment of the protection and/ relocation of existing services by others	

ITEM		UNIT
B12.06	Provisional sum for payment of contract notice board as instructed by Engineer	
	Provisional sum for the payment of the contract notice board	Provisional Sum
ITEM		UNIT
B12.07	Provisional sum for payment of accommodation for the Engineer's Representative	
	Provisional sum for the payment of ER accommodation	Provisional Sum
ITEM		UNIT
B12.08	Provisional sum for payment of Engineer's Representative cellular phone account	
	Provisional sum for the payment of ER cellular phone account	Provisional Sum
ITEM		UNIT
B12.09	Provisional sum for payment of the compensation of landowners	
	Prov sum for the payment of the compensation of landowners	Provisional Sum
ITEM		UNIT
B12.10	Cable ducts	
	(a) Supply, lay and backfill 150mm Cable ducts	metre (m)
ITEM		UNIT
B12.11	Relocation of services by Contractor	
	Supply, lay, bed, backfill & test following reticulation	
	(a) uPVC Class 9 110mm	m
	(b) uPVC Class 9 75mm	m
	(c) HDPE Class 10 50mm	m
	(d) HDPE Class 10 32mm	m
ITEM		UNIT
B12.12	Percentage for charges and profit on the provisional sums for contractor's cost and profit	
	Percentage for charges and profit on the provisional sums	Percentage (%)
ITEM		UNIT
B12.13	Training for Targeted Labour	
	(a) Training Allowance for formal training	Prime Cost Sum
	(b) Extra-over for administration of payment of training	Percentage (%)
	Expenditure of the above item shall be made in accordance with the general conditions of contract.	
	The tendered percentage is a percentage of the amount actually spent under all the provisional sums sub-items, which shall include full compensation for the handling costs of the contractor, and the profit."	
ITEM		UNIT
B12.14	Payment of PSC Members	
	(a) Provisional sum for payment of PSC members	Prime Cost Sum
	(b) Extra-over for administration of payment of PSC members	Percentage (%)
	Expenditure of the above item shall be made in accordance with the general conditions of contract.	
	The tendered percentage is a percentage of the amount actually spent under all the provisional sums sub-items, which shall include full compensation for the handling costs of the contractor, and the profit."	

ITEM	UNIT
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B12.15	Payment of Engineering Services (Environmental Impact Assessment)
(a) Provisional sum for payment of Engineering Services (EIA)	Prime Cost Sum
(b) Extra-over for administration of payment of training	Percentage (%)

Expenditure of the above item shall be made in accordance with the general conditions of contract.

The tendered percentage is a percentage of the amount actually spent under all the provisional sums sub-items, which shall include full compensation for the handling costs of the contractor, and the profit.”

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

B1302 GENERAL REQUIREMENTS

(a) Camps, constructional plant and testing facilities

Add the following:

"The contractor shall, at each area where work is being undertaken, provide on a daily basis at least one portable chemical latrine unit 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. No separate payment shall be made for this requirement and shall be deemed to be included in the rates tendered for the contractor's time-related obligations."

B1303 PAYMENT

UNIT

B13.01 The contractor's general obligations (As specified)

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 sum, excluding VAT.

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."

ITEM

UNIT

B13.01 The contractor's general obligations

- | | | |
|-----|---|----------|
| (d) | Health and Safety obligations | Month |
| (e) | Health and Safety audits conducted by independent company /consultant | Prov Sum |
| (f) | Percentage for charges and profit on the provisional sums for The contractor's cost and profit in respect of item (e) | % |

SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

B1402 OFFICES AND LABORATORIES

(a) General

Add the following:

"The facilities to be provided for the engineer in terms of these specifications shall be fenced off by a two metre high security fence. A security gate shall be provided in the fence which shall be guarded at all times by an acceptable watchman provided by the contractor.

The engineer's establishment may be incorporated within the contractor's establishment provided that the preceding requirements are met to the satisfaction of the engineer.

b) Offices

Add the following new sub-sub-clause:

"(xviii) The engineer's site supervisory staff shall use cellular telephones for site communication purposes. Provision is made in the bill of quantities for separate payment of operating costs of such cellular phones."

SECTION 1500: ACCOMMODATION OF TRAFFIC

B1502 GENERAL REQUIREMENTS

(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 after subclause (viii):

"(ix) be responsible for contacting all the relevant authorities in the event of an accident on the site of the Works

(vi) arrange for the removal of broken down vehicles that obstruct the normal traffic flow

The Contractor shall provide the traffic safety officer with all the necessary resources to carry out his duties as specified, inter alia, light delivery van (LDV), personnel, warning signs and revolving amber flashing lights. A warning sign with the words "CONTRACTOR TRAFFIC CONTROL" and/or "AANNEMER VERKEERSBEHEER" in clearly legible letters shall be mounted on the vehicle at least 1,5m above ground level to be clearly visible. The vehicle shall be equipped with two revolving amber-coloured flashing lights with a minimum intensity of 55W. The flashing lights shall be switched on and the warning sign be displayed at all times when the vehicle is used on the site.

No separate payment will be made for the traffic safety officer, his vehicle, personnel and equipment and the cost thereof shall be included in the Contractor's cost for his establishment and general obligations (Section 1300)."

Add the following new subclauses:

"(j) 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.

(k) 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.

(l) 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.

“(m) Maximum lengths of construction areas

A temporary deviation, where the proposed road follows the existing route shall be constructed along the length of existing road. Traffic shall generally be accommodated as follows:

On a two-way two lane gravel deviation (Class 1) constructed partially outside or adjacent to the existing road reserve boundaries of road.

- (i) On one-way single lane gravel deviation (Class 2) constructed inside the existing road reserve boundaries and on either side of road. In this instance special cognisance shall be taken to accommodate traffic to private properties.

A maximum length of one section of approximately 5,0km or two sections of 3,0km each of deviation (Class 1 or 2) shall be operational at a time and no relieve of this limitation shall be considered by the engineer except where the programme necessitates such at the construction of bridges.”

B1503 TEMPORARY TRAFFIC CONTROL FACILITIES

Add the following after the first paragraph:

“All temporary road signs, devices, sequences, layouts and spacing shall comply with the requirements of the Road Traffic Act, 1996 (Act 93 of 1996), the National Road Traffic Regulations, 2000, the South African Road Traffic Signs Manual, the requirements of the relevant road authority and the drawings. All temporary traffic control facilities shall comply with the guidelines set in SA Road Traffic Signs Manual, Volume 2, Chapter 13: Roadworks Signing, (SARTSM, June 1999, obtainable from the Government Printer, Pretoria).”

(b) Road signs and barricades

Add the following:

“All the temporary road signs are to be mounted on posts as specified in section 5600 of the specifications. Provision shall be made for the supply and erection of the signs and the maintenance of the signs during the construction period. Provisions shall also be made for the removal of the temporary road signs on completion of the construction work when such signs are no longer required.

Temporary road signs and channelization devices shall be manufactured in accordance with the latest edition of the South African Road Traffic Signs Manual (June 1999) and placed as shown on the drawings and in Road Signs Note 13. Delineators shall be manufactured from a non-metal material and shall be mounted on a base section also manufactured of non-metal material. Single as well as back-to-back mounted delineators are required.

The obligation to arrange safe passage of traffic shall always be vested with the contractor regardless what is indicated on the drawings of the engineer.”

(c) Channelization devices and barricades

Add the following:

“Drums shall not be used as channelization devices.

TW 401 and TW 402 delineators shall comply with the following requirements:

- a) It shall be manufactured from a flexible material and shall comply with SABS 1555. The blade portion of the delineator shall be positively affixed to a base unit which in turn shall be stable on its own or be stabilized by means of sandbags when used on the road.
- ii) The blade shall be retro-reflectorised, with class 1 yellow sheeting on the side facing oncoming traffic..
- iii) It shall nominally be 1000mm high x 250mm wide and the bottom edge of the delineator shall not be more than 200mm above the road surface.
- iv) It shall be subject to the approval of the Engineer.

The maximum spacing between centres of delineators shall be as shown on the drawings or as directed by the Engineer.”

e) Warning devices

Add the following:

“It is a requirement of this contract that all construction vehicles and plant used on the works will be equipped with rotating amber flashing lights and warning boards as specified in the standard specifications. Construction vehicles travelling outside the limits of construction areas shall however, not operate the warning lights.

The warning lights shall have a base diameter of at least 170mm and the amber bulb cover a height of a least 150mm high. It shall be a requirement that the contractor also provides the engineer’s site personnel with warning lights for their vehicles (a maximum of two lights are required) without any payment applicable.

Add the following clause:

B1517 RETRO-REFLECTIVE MATERIAL

“Retro-reflective material for temporary signs shall comply with the requirements of SABS 1519-1 for weathered material. Tests shall be carried out with a field retro-reflectometer and the testing procedure and classification are described in CLAUSE b 8118. The value of the coefficient of Retro-Reflection shall be at least 60% of the values indicated in Table B8118/1.”

B1518 MEASUREMENT AND PAYMENT

Renumber item 15.01 as B15.01 and add the following:

“The tendered rate shall also include for all measures necessary to safeguard traffic on temporary deviations during blasting operations.”

Renumber item 15.03 as B15.02

Add the following sub-item:

B15.02 Temporary traffic control facilities

- (p) Provision of high visibility safety jackets number (No)

The unit of measurement shall be the number of safety jackets supplied to the supervisory staff.

The tendered rate shall include full compensation for providing and maintaining hats and the jackets equipped with high visibility retro-reflective and/or fluorescent panels in red, yellow and white for the duration of the contract”.

SECTION 1700: CLEARING AND GRUBBING**B1702 DESCRIPTION OF WORK****a) Clearing**

Add the following:

“Clearing shall include the removal of material to a thickness of up to 150mm in-situ material as ordered by the engineer. No payment shall be made for temporary stockpiling of topsoil material in the case where this material is applied as topsoil after completion of road side slopes.

Should the required depth exceed 150mm, the total volume of material removed shall either be classified as “temporary stockpiling of topsoil” or “unsuitable roadbed material” or “cut to spoil” whichever is applicable as allowed for in the standard specifications. In these cases no payment shall be made for clearing and grubbing.

Clearing as described shall in all cases be undertaken in such a manner that the topsoil is preserved and not contaminated with other debris or rubbish. Cross-sections for the determination of earthworks quantities shall be taken after clearing (topsoil or unsuitable roadbed material) and roadbed preparation if applicable.

Payment for gabion boxes and mattresses which have to be removed and the material sorted and stacked shall be made under section 5200”

B1704 MEASUREMENT AND PAYMENT

Change item 17.01 to read as follows:

ITEM**B17.01****Clearing and grubbing of:**

Clearing and grubbing

UNIT

hectare (ha)

SECTION 1800: DAYWORK SCHEDULE

Note: This is a new section added to the Standard Specifications.
Add the following:

B1801 SCOPE

This section covers the listing of day work items for use in determining payment for work which cannot be quantified in specific pay item "units" in the bill of quantities or work ordered by the engineer during the construction period which was not foreseen at tender stage for which no applicable rate exists in the schedule or for work of a special or different character warranting special payment as decided by the engineer.

B1802 ORDERING OF DAYWORK

No daywork shall be undertaken unless specific written authorisation is obtained from the engineer.

B1803 MEASUREMENT AND PAYMENT

The engineer may order the following daywork items:

ITEM	DESCRIPTION	UNIT
B18.01	(a) Normal hours of duty of:	
	(i) Unskilled	Hour (h)
	(ii) Semi-skilled	Hour (h)
	(iii) Skilled	Hour (h)
	(iv) Foreman	Hour (h)
B18.02	Hire of construction equipment	
	(a) Excavator 22 –30 ton	Hour (h)
	(b) TL Backactor	Hour (h)
	(c) Front end loader	Hour (h)
	(d) Platform truck	Hour (h)
	(e) Tip truck	Hour (h)
	(f) Grader (CAT 140G or similar)	Hour (h)
	(g) Walk behind roller (Bomag BW90 or similar)	Hour (h)
	(h) Mechanical Broom	Hour (h)
	(i) D6 Dozer	Hour (h)
	(j) Compressor	Hour (h)
	(k) Submersible dewatering pump	Hour (h)

The unit of measurement shall be the actual number of hours worked by labourers or foremen or an item of plant.

The tendered rates shall include full compensation for all cost items including overheads, head-office expenses and profits as described in subclause 40(3) of the general conditions of contract and shall be subject to contract price adjustment as provided for in the contract.

The mark-ups on daywork items in accordance with the Appendix to the Tender shall not be applicable on daywork items listed in the bill of quantities in terms of the above specifications. In the event of new daywork rates being requested for items not appearing in the bill of quantities, then the provisions of the general conditions of contract and the Appendix to the Tender shall apply.

Prior to the commencement of any work by the labourers described under item B18.01, the contractor must obtain written consent from the engineer regarding the classification and composition of all labourers in terms of “unskilled” and “skilled” labourers required for the work as ordered by the engineer.”

SECTION 2100 : DRAINS

B2103 BANKS AND DYKES

Add the following:

“Mitre banks at culvert inlets should be considered at such a skew angle that it guides the water into the inlet with a minimum loss of velocity (energy).”

B2104 SUBSOIL DRAINAGE

(a) Materials

(i) Pipes

Delete the last sentence of the fifth paragraph and substitute it with the following:

“Perforation for 100mm pipes shall be spaced in two rows, one on each side of the vertical centre line of the pipe, and at one third of the circumference. The perforation for the 150mm pipes shall be spaced in four rows, two as described for 100mm pipes, and the other two rows at two thirds of the circumference.”

(ii) Synthetic-fibre filter fabric

Add the following:

“All filter fabric shall be a non-woven needle punched type material and must be approved by the engineer. Filter fabrics shall have a minimum co-efficient of permeability of 3×10^{-3} m per second.”

SECTION 2200 : PREFABRICATED CULVERTS

B2201 SCOPE

Add the following:

“Section 2200, Prefabricated culverts will read, Section B2200, Constructed culverts. The attention of the contractor is drawn to the fact that information given on the plans, longitudinal sections or drainage schedules may have to be altered to suit actual site conditions and, therefore, the contractor shall only construct these culverts after the engineer has verified the information on the drawings from detail surveys taken on site by the contractor as directed by the engineer.

Precast units shall be ordered by the contractor from actual measurements of length acquired on the site and not from lengths stated in the drainage schedule or from the bill of quantities.

No precast units shall be ordered until the engineer has satisfied himself that the proposed units have been manufactured to the required tolerances and loading standards. The engineer must be given the opportunity to load test units if he considers this necessary”.

B2203 MATERIALS

(f) Skewed Ends

Delete the second and third paragraphs and substitute with the following:

“Precast portal and rectangular culverts placed on a skew shall be supplied with cast in situ skewed ends as shown on the drawings. In situ skew ends are to be constructed simultaneously with the wingwalls and headwalls”.

B2204 CONSTRUCTION METHODS

Add the following:

“In all cases where soft founding materials are classified as suitable for culvert bedding construction, the in situ material shall be ripped, moistened and compacted to 90% or 93% modified AASHTO density. The depth of preparation and compaction of founding material shall be as indicated on the drawings or as specified by the engineer.

Allowance for measurement and payment for this work is made in the bill of quantities under this section.”

B2205 EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

Add the following subclauses:

“(d) Drainage of excavations

The contractor shall apply suitable, effective drainage and dewatering methods for preventing the ingress of water into the excavation and to keep them dry. Drainage measures, with the exception of pumping, shall be maintained until the backfilling has been completed. Between various construction stages, pumping may be interrupted in consultation with the engineer.

Any draining or pumping of water shall be done in a manner as will preclude the concrete or materials or any part thereof from being carried away.

Allowance for measurement and payment for dewatering and keeping dry of culvert excavations is made in the schedule in this section”.

B2211 BACKFILLING OF PREFABRICATED CULVERTS

Change the last sentence in the fourth paragraph to read "90% or 93% as shown on the drawings or as directed by the engineer."

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES

(b) Concrete work

Add the following:

“The type of surface finish for in situ concrete in the culverts shall be as indicated on the drawings. Generally all exposed faces shall be of Class F2 formwork and faces covered by backfill shall be Class F1. The top of parapet walls and wingwalls shall be finished to a Class U2 surface finish.”

(h) Prefabricated inlet and outlet structures

Add the following:

“The use of precast concrete inlets and outlets as described in clause 2212(h), shall not be allowed under any circumstances. Cast in situ concrete wingwall type inlets and outlets shall be constructed as indicated on the drawings and shall be in accordance with section 6000 of the Standard Specifications. Allowance for measurement and payment for wingwall type inlets and outlets is made in the schedule in this section.”

B2218 MEASUREMENTS AND PAYMENT

Add the following:

“The tendered rate shall be full compensation for the cutting, by means of mechanical saw (angle grinder) and finishing off of the pipes for the specific angle of skew at which the pipes must be laid. The tendered rate for concrete pipe culverts shall include the additional cost of units that are half the standard length. The standard length of a concrete pipe is 2.44m”

SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS**B2301 SCOPE**

Add the following:

“The position and length of the following types of concrete kerbs and channels are indicated on the standard drawings.

Type B : Precast concrete kerbing, semi-mountable (SABS 927-1969)

Type C : In situ concrete kerbing at intersections

Edge beam : In situ concrete kerbing at farm access and bus stops

B2304 CONSTRUCTION**(d) Slip form kerbing**

Add the following:

“Slip-form kerbing shall under no circumstances be allowed.”

(e) Cast in situ kerbs and channels

Add the following:

“Forming and templates used to form joints between alternate sections shall be of steel plate of which the thickness shall not be less than 5mm.”

Add the following new subclauses:

(i) Construction sequence

Replace paragraphs (i), (ii) and (iii) with the following:

“In all cases where kerbing and/or channelling adjoin the bituminous surface of the road, the kerbing and/or channelling may only be constructed after the bituminous surface has been completed.

Before commencing with the kerbing and/or channelling, the surfacing and the base, shall be accurately cut to line with a mechanical saw to a minimum depth of 75mm. After excavation the concrete shall then be cast against the cut surface without formwork. All material outside the cut line must be carefully removed to the required thickness of concrete without damaging the edge before commencing with the casting of the concrete. No payment shall be made for repair work as instructed by the engineer to damage caused by the cutting/excavating process of surfacing and base layers. Any concrete spilt onto the surfacing shall immediately be removed and cleaned. Where so required by the engineer, the contractor shall, without any additional compensation, paint emulsion over the stained surface.

Add the following subclause:

(k) Formwork and finish

“Formwork and finish of concrete kerbs shall comply with the requirements of section 6200. All visible edges on the sides or at joints of cast in situ concrete kerbs or channels shall be rounded with a rounding tool.”

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

Add the following to sub-clause 3102(a):

“Arrangements regarding to access to borrow pits and the alignment of haul roads shall be made between the contractor and the owners of the land on which borrow pits are situated. The engineer’s representative on site shall be present at all such negotiations, which shall be confirmed in writing by the contractor. All costs involved with such negotiations as well as the requirements contained in clause 3102 and clause 1225 of the specifications shall be borne entirely by the contractor and will be deemed to have been included in his rates for borrow materials.”

Add the following to sub-clause 3102(c):

“The contractor shall also adhere to all statutory requirements including applying for and completing Environmental Programme Management documents (EMP) for the Department of Mines and Energy. All costs for application and completion of EMP shall be borne by the contractor and will be deemed to have been included in his rates for borrow materials.”

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

Add the following:

“The expropriation and compensation for land from which borrow materials is obtained shall be negotiated and paid for by the employer.”

(b) Use of borrow materials

Add the following to the second paragraph of this subclause:

“Compensation to owners and arrangements with owners for taking material from alternative borrow pits proposed by the contractor shall be the contractor’s responsibility and entirely at his own expenses.”

B3104 OPENING AND WORKING BORROW PITS AND HAUL ROADS**(c) Excess overburden**

Add the following:

“All excess overburden removed at borrow pits shall be replaced over the entire area of the borrow pit after initial shaping has been undertaken in an even layer. Payment for this requirement shall be deemed to be included in pay item 31.01

f) Protecting borrow pits

Add the following:

“It is a requirement of the contract that, where-ever required by the landowner, borrow pits shall be provided with temporary fencing around the perimeters of the borrow areas. The temporary fencing shall be erected prior to entering the land for borrowing purposes and shall on final finishing of the borrow areas as specified, be dismantled and removed and discarded as decided upon by the contractor. Payment for temporary fencing around borrow pits shall be made in accordance with the stipulations of section 5500 in these specifications.”

Add the following new subclause:

“(h) Haul roads

Haul roads to designated borrow pits along the road shall be constructed along alignments as instructed by the engineer and shall be maintained at the contractor’s own cost to the satisfaction of the engineer.”

B3105 FINISHING-OFF BORROW AREAS AND HAUL ROADS

Add the following to this clause:

"Should the employer, engineer or any other authority approved by the engineer, require a higher standard of shaping and finishing off of borrow pits than specified in the standard specifications, measurement and payment for such extra work shall be made using daywork items.

The above notwithstanding, the finishing-off borrow pits and haul roads must be to a minimum requirement acceptable to the Department of Minerals and Energy. The payment to achieve the minimum standard shall be deemed included in the pay items for borrow materials"

SECTION 3300: MASS EARTHWORKS

B3305 TREATING THE ROADBED

(a) Removing unsuitable material

Add the following to the third paragraph:

"For the purpose of this contract, excavation and removal of in-situ clayey material over areas where the road is in a fill condition shall be classified as removal of unsuitable material, irrespective of the stability or moisture condition of the in-situ material".

(c) Preparing and compacting the roadbed

Delete the last sentence of the first paragraph "If necessary, roadbed.....depth of compaction" and replace as follows:

"Where demarcated by the engineer, prior to the roadbed being scarified, the excess in situ material forming part of the present roadway, and within the limits of the roadbed, and in close proximity of the layer works, but falling within the limits of the layerworks, shall be bladed to controlled level in order to achieve the required level and necessary depth of compaction."

B3307 FILLS

(c) Constructing a pioneer layer

Add the following to the first paragraph:

"For the purpose of this contract, pioneer layers shall be completed by means of eight-pass roller compaction using vibratory rollers as specified in subclause 3304(b) of the standard specifications."

(d) Benching

Add the following:

"Benching of fill and pavement layer material is required to be undertaken into the existing fill embankments and pavement layers. No additional payment shall be made over and above the normal pay items applicable to earthworks and pavement layers where benching is required for widening of the existing road formation. Benching shall be undertaken as shown on the drawings.

It is a requirement that benching shall always be started at the bottom of the existing fill progressing to the top of the formation. The dimensions and details of benching are shown on the drawings."

SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

B3402 MATERIALS

(a) General

Add the following:

"Material requirements for gravel pavement layers are in accordance with TRH4 and shall be indicated on the drawings."

B3405 CONSTRUCTION TOLERANCES

(f) Surface regularity

Add the following:

"Where transverse construction joints in base layers are made between newly and previously constructed sections, the contractor shall exercise level control at such joints by installing level poles at 5m intervals on either side of the joint of the layer covering at least a 30m length into the newly constructed section."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following:

"Test results and measurements shall be assessed by the engineer according to the provisions of Section 8300 of the standard specifications".

SECTION 3500 : STABILISATION**B3503 CHEMICAL STABILISATION****(a) Preparing the layer**

Add the following:

Breaking-down and removal of oversize material and addition of material to make to required thickness shall be completed before stabilising agent shall be added."

(h) Curing the stabilised work

Add the following:

"It is the intention of this contract that curing of chemically stabilised layers shall be undertaken in accordance to protection method (ii) as specified. Any other method of curing shall only be allowed in special circumstances as decided upon by the engineer, but no additional payment whatsoever over and above that allowed for in item 35.05 will be made."

(i) Construction limitations

In table 3503/1, replace "8 hours" with "6 hours."

B3506 TOLERANCES**(b) Uniformity of mix (chemical stabilisation)**

Add the following:

"All pavement layers, especially layers which are to be chemically stabilised, shall, apart from the application of other mixing equipment, include at least two motor grader blade mixing operations to the full depth of the layer.

The in-place mixing of chemical stabilising agents with gravel materials shall be executed in such a manner that the coefficient of variation in the uniformity of the mix shall not exceed 30% when the stabilised layer is subjected to the chemical titration test, TMH1 method A15d. For plant-mixed stabilised materials the coefficient of variation shall not exceed 20%.

The coefficient of variation, C_v , is calculated by the formula:

$$C_v = \frac{S_n}{X_n} \times 100 \text{ where,}$$

S_n = standard deviation of n determinations of stabilising agent content

X_n = mean percentage of n determinations of stabilising agent content with n = 4 minimum."

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following:

"The preparation of chemically stabilised material for the determination of the modified AASHTO density of the material shall be executed in accordance with TMH1 test method A16T and compaction thereof in accordance with TMH1 test method A7."

SECTION 4300 : SEALS: MATERIALS AND GENERAL REQUIREMENTS**B4302 MATERIALS**

(a) Bituminous binders

ADD THE FOLLOWING PARAGRAPH AFTER THE INTRODUCTORY PARAGRAPH:

“Any tests referred to in Technical Guideline (TG1)“Use of Modified Bituminous Binders in Road Construction, October 2001”, published by the Asphalt Academy, shall supersede those specified in the Colto Standard Specifications for Road and Bridge Works 1998.”

(v) Homogeneous hot applied polymer modified binders (summer grades)

DELETE THE ENTIRE SUB SUB-CLAUSE AND REPLACE WITH THE FOLLOWING:

“(1) Base bitumen

The base bitumen shall comply with the requirements of SABS 307 or a blend of such bitumens. In addition, the chemical composition of the bitumen shall be such as to permit blending with the proposed polymer to form a stable product that will satisfy the relevant requirements.

(2) Polymer

The type and percentage of polymer to be blended with the bitumen is not prescribed, however, the contractor shall state, in the space provided in the schedule of quantities, the type of polymer he will use.

(3) Polymer modified blend

The polymer modified bitumen shall be blended at the factory.

The polymer modified bitumen to be used shall be binder class S-E1 and shall satisfy the relevant requirements listed in table B4302/7.

The binder for the days production shall be tested on site to determine the softening point before any seal work is commenced with. No claim for delays due to this requirement shall be considered. As a control, a hand held spindle viscometer shall be used to monitor the viscosity of the binder at the spray temperature.

TABLE B4302/7: Requirements for hot applied homogeneous modified binders

Property	Unit	Test Method	Binder Class
			S-E1
Softening point (R&B)	oC	MB-17	50 (min)
Dynamic viscosity @165oC	Pa.s	MB-18	0,55(max)
Ductility @ 15oC	cm	MB-19	75 (min)
Force ductility @ 15oC	N	-	Report*1
Complex shear modulus ($G^* / \sin \delta$ @ rad/s)	oC	AASHTO: TP 5	Report
Creep stiffness: Bending Beam Rheometer	mPa	AASHTO: TP 1	Report
Elastic recovery @ 15oC	%	MB-4	50 (min)
Flash point	OC	ASTM: D93-97	230 (min)
Stability (R&B diff. @ 160oC)	oC	MB-6	5 (max)
Adhesion @ 5oC	%	MB-7	90 (min)
Torsional recovery @ 15oC (*3)	%	MB-5	Report
Torsional recovery @ 25oC	%	MB-5	Report
Properties after ageing (RTFOT)			
Difference in softening point	oC	MB-17	-2 to +8
Elastic recovery @ 15oC	%	MB-4	40 (min)
Mass change	%	MB-3	1.0 (max)
Dynamic viscosity @ 165oC	Pa.s	MB-18	Report
Torsional recovery @ 25oC	%	MB-5	Report

* **Note: The properties listed “report only” will only be carried out on instruction by the engineer. The contractor shall not be responsible for the costs of any such testing.**

(b) Aggregates

(i) Aggregates for seals

ADD THE FOLLOWING:

"The nominal aggregate size for application of the double seal shall be 13,2 mm and 6,7 mm."

"The nominal aggregate size for application of the bituminous single seal with slurry (cape seal) shall be 19mm."

(1) Grading

ADD THE FOLLOWING:

"Only Grade 1 aggregate shall be used for the construction of seals".

(3) Shape

ADD THE FOLLOWING:

"The average least dimension (ALD) of the 13,2 mm nominal size aggregate, shall not be less than 8,0 mm and that of the 6,7mm shall not be less than 4,0mm when tested in accordance with TMH1 test method B18. The flakiness index of the 6,7mm nominal size aggregate shall preferably be between 20% and 35%."

(d) Hydrophilic aggregates

(i) Pre-coating of aggregate for stockpiling or for immediate use:

In the fourth paragraph, delete "12 litre" in the second sentence, and add the following new sentence:

"Precoating fluid shall be manufactured from petroleum based products. The use of tar based precoating fluids will not be permitted. For tender purposes the nominal quantity of precoating fluid for the relevant nominal aggregate sizes is specified in table B4302/14."

Table B4302/14: Nominal Application Rates for Pre-coating Fluid

Nominal aggregate size (mm)	Nominal pre-coating application rate (l/m ³)
19,0	12
13,2	16
9,5	19
6,7	22

ADD THE FOLLOWING SUB CLAUSES:

"(e) Water for diluting emulsions

Water used for the dilution of emulsions on site shall be suitable potable water, and each source of water used shall be tested for compatibility with the emulsion before it is added to the bulk emulsion.

(f) Testing of polymer modified bitumen/emulsion

Testing shall be in accordance with the methods described in "Technical Guideline: The use of Modified Bituminous Binder in Road Construction TGI (October 2001), published by the Asphalt Academy.

During spraying of each batch, the contractor shall draw off at least three test samples of the modified bitumen/emulsion product and submit them to the engineer for acceptance testing purposes. The supplier shall submit all his tests results to the engineer for correlation purposes, failing which; the engineer's results shall be binding in terms of acceptance or rejection of the product."

ADD THE FOLLOWING SUB CLAUSE:

"(g) Sources of aggregates

Aggregates for seal work shall preferably be obtained from sources within the Limpopo Province e.g. crushing plants at Polokwane, Musina, Tzaneen etc. If, for reasons of limited production rates of seal work aggregate or quality of the aggregates, adequate quantities of aggregates cannot be obtained from local sources, the aggregates may be obtained from sources outside the Limpopo Province. No provision is made in the schedule of quantities for an extra over payment on seal work rates where aggregates have to be obtained from outside sources and tenderers will be deemed to have taken the source of the aggregates into account in their tendered rates."

B4303 PLANT AND EQUIPMENT

- (a) General
ADD THE FOLLOWING:
"Apart from the specified capacity and condition of plant used for seal work, the operators and attendants of binder distributors and chip spreaders shall prove their abilities to the engineer to apply the binder and seal work aggregate within the specified tolerances for application rates, widths of application and making good of all seemingly minor defects which may occur during seal work operations. Able operators and attendants shall be kept in service throughout the construction period and not rotated with reserve staff who might not be familiar with the equipment or final product requirements.
The engineer will instruct the removal of incompetent staff from site if satisfactory performance is not achieved and maintained."
- (b) Binder distributor
ADD THE FOLLOWING:
"The binder distributor shall be capable of spraying the binder to the specified application rates and to the satisfaction of the engineer.
It is important that the pump of the distributor shall be capable of delivering the binder at the spray-bar nozzles at the correct pressure to obtain the specified application rates, irrespective of the viscosity properties of the proposed binder.
The spray bar of the distributor shall be fitted with fishplates at the outside edge of the bar to prevent over spraying onto gravel shoulders when spraying adjacent to such shoulders, or staining of concrete elements on the edge of the surfacing of the road. If instructed by the engineer, the outside nozzles of the spray bar shall be turned to a 45° angle to achieve a thickened edge of binder along the outside limits of the seal work area.
A calibration certificate, not older than 3 months, for the binder distributor shall be presented to the engineer before any binder is sprayed.
The binder distributor shall be fitted with a suitable valve or other access gate for taking of samples of the binder for testing purposes"
- (c) Chip spreaders
DELETE THE SECOND AND THIRD PARAGRAPH AND REPLACE WITH THE FOLLOWING:
"All chip spreaders for use in seal work operations shall be self-propelled and a minimum of two such chip spreaders shall be available at the site of the work during seal work operations."
- (k) Miscellaneous equipment
ADD THE FOLLOWING:
"Apart from the specified plant and equipment for construction of surfacing seals, the contractor shall provide an additional pneumatic-tyred roller with a mass of at least ten tons to carry out rolling where the back-chipping team operating behind the seal work unit places seal work aggregates by hand in areas which are deficient in stone in terms of the required application rate of aggregate. The pneumatic-tyred roller shall cover the back-chipped areas with at least four passes. No separate payment shall be made for the provision and operation of the additional roller."

B4304 GENERAL LIMITATIONS AND REQUIREMENTS

- (a) Weather limitations
ADD THE FOLLOWING:
"As soon as the minimum air temperature at night is forecast to fall below 8°C, seal work shall cease until warmer weather conditions are experienced. Seal work using polymer modified binder shall not be permitted during the months of May, June, July and August. Winter-grade binders shall not be used in any seal work and the contractor's programme of work shall reflect this limitation. Seal work with polymer modified binder shall also not be permitted if rainy weather is eminent. Seal work shall also not be undertaken if rain is forecast or imminent."

Application of binder shall not be allowed if existing cracks in the road contain moisture after rainy spells."

B4305 HEATING AND STORAGE OF BITUMINOUS BINDERS

- (e) Homogeneous hot-applied modified binders (summer grade)
IN THE SECOND PARAGRAPH, DELETE "TABLE 4305/3" AND REPLACE WITH
"TABLE B4305/3"

TABLE B4305/3: Storage limits for hot homogeneous modified binders

Binder Class	Short term handling		Storage		Spraying/Asphalt mixing		
	Max Temp (oC)	Max Time (hrs)	Max Temp (oC)	Max Time (hrs)	Max Temp (oC)	Min Temp (oC)	Max Time (hrs)
S-E1/S-E2	180	24	150	240	200	185	8
C-E1	160	24	140	240	170	160	8
A-E1/A-E2/A-P1	180	24	140	240	170	160	36

B4307 CONSTRUCTION OF SEAL

- (b) Single and double aggregate seals
- (i) Application of tack coat and aggregate
DELETE THE LAST SENTENCE OF THE FOURTH PARAGRAPH AND REPLACE WITH THE FOLLOWING:
"The contractor shall construct the seal in such a way that the resulting longitudinal joints fall on the planned positions of the line markings."
ADD THE FOLLOWING TO THE FOURTH PARAGRAPH:
"Joints shall be straight and aggregate shall be broomed back in a neat straight line before the next spray. String lines shall be used to demarcate joint edges. All stone-loss and "tram-lining/roping" shall be made good by the contractor at no additional cost."
- (iii) Broom drag and final rolling of aggregate
ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:
"The broom drag on the newly constructed seal shall not be executed using a rotary broom but a drag broom as specified in subsubclause 4303(e)(i) of the standard specifications. The contractor shall provide a back-chipping team, together with a pneumatic-tyred roller, of such capacity that back-chipping and rolling of aggregate shall be complete within thirty minutes after initial application of the aggregate."
- (iv) Joints between binder sprays
ADD THE FOLLOWING:
"Allowance is made in the schedule of quantities for the provision and use of reinforced paper to ensure neat transverse joints between successive binder applications."
- ADD THE FOLLOWING SUBSUBCLAUSES:*
- "(vi) Disposal of unused or rejected bituminous products
No unused or rejected bituminous products shall be dumped on the site of the works, nor in other areas, but such products shall be returned to the supplier's production plant."

B4314 TOLERANCES AND FINISH REQUIREMENTS

- (a) New work
- (v) General

ADD THE FOLLOWING:

"Immediately before the tack coat and first application of aggregate is applied, the centre line of the road as well as the edges of the surfacing area shall be demarcated with a clearly visible weatherable fibre rope pegged down with nails driven into the existing surface 15m apart on straight sections, or 3m apart on curves."

- (c) The rate of application

REPLACE THE FIRST PARAGRAPH THE FOLLOWING:

"The maximum permissible variation from the rates of application of aggregate or slurry, as ordered by the engineer, shall be plus or minus 5%.

For binders, the maximum permissible variation from that specified shall be 5% for conventional bitumen and all emulsions (measured net cold), and 5% for hot applied modified binders (measured at spray temperature). Provided he is satisfied that the seal will perform satisfactorily, the engineer may, at his discretion, conditionally accept out of tolerance variations at the reduced rates of payment listed in Table B4314/1 below. However, variations in total binder application rates in excess of those tabled shall be deemed rejected. Rejected sprays will not be considered for payment unless corrected to the satisfaction of the engineer.

A lot for acceptance control purposes shall be at least 2000 litres. Lots smaller than 2000 litres shall be combined with succeeding lots until a combined lot not less than 2000 litres is obtained.

Table B4314/1: Payment Reduction Factors For Conditionally Accepted Binder Application Rates

Conventional bitumen and emulsion. Deviation from specified spray rate Net cold bitumen. (%)	Hot applied homogeneous and non-homogeneous modified bitumen. Deviation from specified rate. At spray temperature. (%)	% Payment of tendered rate for seal
±5,0	±5,0	100%
±6,0	±6,0	97,5%
±7,0	±7,0	95%
±8,0	±8,0	90%
±9,0	±9,0	85%
±10,0	±10,0	80%

ADD THE FOLLOWING AT THE END OF THE LAST PARAGRAPH:

"The completed bituminous surfacing shall be of uniform texture without gaps or patches and shall be free from corrugations and any loose aggregate or binder spillage.

The edges of the completed bituminous surfacing shall be true to line."

SECTION 4500 : DOUBLE SEALS

B4503 CONSTRUCTION

- (a) Application of tack coat and first layer of aggregate

ADD THE FOLLOWING:

"The aggregate for the first layer shall be 13,2 mm nominal size. The application rate of binder shall be determined when aggregate properties and other design requirements for the seal have been determined. The nominal rate of application shall be taken as 1,0 l/m² of homogenous hot modified binder at spray temperature.

- (b) Initial rolling

ADD THE FOLLOWING:

"Immediately after application of the aggregate, but before back-chipping operations commence, the first layer of aggregate shall be rolled with one (1) pass of a three wheel steel-wheeled roller with a mass not exceeding 6 ton, if ordered by the engineer, after which pneumatic-tyred rolling shall follow as specified."

- (d) Second application of bituminous binder and aggregate

ADD THE FOLLOWING:

“The aggregate for construction of the second layer shall be 6,7 mm nominal size. The application rate of the binder where specified shall be determined when aggregate properties and other design requirements for the seal have been determined. The nominal rate of application shall be taken as 1,0 l/m² homogenous modified binder at spray temperature.

- (g) Fog Spray
ADD THE FOLLOWING:
“A fog spray of 30% cationic bitumen emulsion shall be applied to the surface of the second layer of aggregate.”
- (h) Precoating of aggregate
ADD THE FOLLOWING:
“The first application of aggregate used in the construction of double seals shall be precoated with “Sacrosote 70” at a rate of 16 l/m³. The precoating shall be undertaken as described in clause 4302(d) of the standard specifications. Precoating of aggregate shall be undertaken sufficiently ahead of sealing operations to permit the aggregate to dry, but at least 72 hours before application of the aggregate. Prior to application of the aggregate no free precoating fluid shall be notable when the aggregate is inspected by handling it.”
- ADD THE FOLLOWING NEW SUB CLAUSE:*
- (i) Construction trial sections
Before the contractor commences with permanent surfacing a successful trial section as described in section 4300 of the project specifications shall be constructed and approved by the engineer.”

SECTION B5200: GABIONS

B5201 SCOPE

Add the following paragraph

“This section also covers the removal, dismantling and stacking of existing gabion work, and the reuse of these materials where authorised by the engineer.”

B5203 CONSTRUCTION OF GABION CAGES

(a) General

Add the following new sub-clause:

- “(iii) Reno mattresses or similar may be used as alternative to gabion boxes. These Reno mattresses are to be manufactured of 80mm x 100mm mesh (2,5mm diameter wires, diaphragm spacing 0,6m).

B5205 MEASUREMENT AND PAYMENT

Add the following new items:

“ITEM

UNIT

B52.05 **Removal and dismantling of existing damaged gabions** Cubic metre (m³)

The unit of measurement for the removal and dismantling of existing damaged gabions shall be the cubic metre of each type of gabion removed and dismantled on the instruction of the engineer.

The tendered rate shall include full compensation for removing and dismantling gabions, and stacking all the materials. The tendered rate shall further include for the disposal of unsuitable material.

SECTION 5600 : ROAD SIGNS

B5601

“This section also covers the supply and erection of permanent danger plates at culverts and bridges at the locations indicated on the drawings or as directed by the engineer.”

B5602 MATERIALS

(g) Retro-reflective material

In the first sentence, replace “SABS 1519” with “SABS 1519-1” and delete “and the adhesion requirements of CKS 191.”

Add the following:

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

(k) Black vinyl

In the second sentence, replace “SABS 1519” with “SABS 1519-1” and delete the rest of the sentence.

Add the following sub-clause:

"(m) Temporary covers for road signs

When required, existing road signs shall be fully or partially covered with burlap or other approved material to obscure destinations that are temporarily inapplicable or irrelevant. The covers shall be neatly applied and firmly fixed in position on the rear side of the sign so that they will be able to withstand strong gusts of wind or eddies caused by passing traffic."

B5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS

(a) Road signboards

Add the following:

“The contractor shall make every effort to ensure that signboards are correct in all respect and before dispatching the boards from the manufacturer’s factory shall provide the Engineer with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board.

If the Contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification.”

(i) Steel plate road sign boards

Add the following as the fourth paragraph:

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

(ii) Steel profile road signboards

Add the following:

“Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius.

Retro-reflective material to adjoining Chromadek panels on a sign shall be practical visual match of the specified colour.”

B5604 ROAD SIGN FACES AND PAINTING

Add the following new sub-clause:

- “(e) Application of retro-reflective material**
All sign faces shall be faced with diamond grade retro-reflective material. Painted front sign faces shall not be used.
Where applied to Chromadek sections, retro-reflective material shall be applied as specified for aluminium section in Clause 5603(d) of the Standard Specification, and of Clause B5603(a)(ii) of this project Specification.”

B5605 STORAGE AND HANDLING

Add the following:

“The following shall not be allowed on the sign face:

Drilling of holes, except for the fastening of overlays

Application of any form of adhesive

Cleaning with any chemicals that are not specifically approved by the manufacturer of the retro-reflective material

Covering the sign face with an impermeable material that does not allow free circulation of air.”

B5606 ERECTING ROAD SIGNS

(c) Erection

Add the following:

“After erection the signboard shall be thoroughly cleaned with a cleaning agent approved by the retro-reflective material’s manufacturer.

All vegetation obstructing the new or replaced sign board shall be removed and disposed of as instructed by the Engineer.”

B5609 MEASUREMENTS AND PAYMENT

Add the following item:

	ITEM	UNIT
B56.10	Danger plates (back to back) at culverts / structures	
	(a) Type A storm water culverts (150mm x 600mm)	number (no)

SECTION 5700: ROAD MARKINGS

B5702 MATERIALS

(a) Paint

- (ii) Retro-reflective road marking paint

Add the following:

“When measured in accordance with SABS Method 1261-1998 within a period of two weeks after application, the coefficient of retro-reflected luminance, R_L , shall be at least 150 mcd/m².lx for white markings and 100 mcd/m².lx for yellow markings.

Retro-reflective road-marking paint shall be used to paint road markings during the contract period and to re-paint all road markings at the end of the maintenance period.”

Add sub sub-clause (v):

- “(v) Other roadmarking materials

The contractor may use other roadmarking materials which would ensure more durable markings and which would meet the specified performance criteria.

Such materials shall comply with a standard set by a recognised national standards institution. Information on such materials and the standards to which they comply shall be submitted to the engineer for approval prior to the materials being used.

B5705 SURFACE PREPARATION

Add the following at the end of the second paragraph:

"The onus is on the contractor to ensure that the surface on which the road markings are to be applied are sufficiently clean, dry and non-flaky to ensure that the quality of the road markings will not be adversely affected. The contractor is also responsible for protecting roadstuds from being painted over."

B5707 APPLYING THE PAINT

Add the following:

"The Contractor's establishment on site and general obligation shall be deemed to fully include the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be onsite or is required to move within the site."

B5708 APPLYING THE RETRO-REFLECTIVE BEADS

Replace the second sentence with the following:

"The rate of application of the beads shall be such that the coefficient of retro-reflected luminance, R_L , specified in section B 5702(a)(ii) is achieved, but shall not be less than 0,34kg/m² of marking."

B5711 GENERAL

Insert the following into the last sentence of the last paragraph between "black paint" and "or chemical paint remover":

“, bituminous emulsion, slurry”

Add the following to the last paragraph:

"Where black paint is used, it shall be matt."

B5714 MEASUREMENT AND PAYMENT

Add the following items:

<u>"Item</u>	<u>Unit</u>
B57.07 Establishment of painting unit during the construction period	Lump sum
<u>"Item</u>	<u>Unit</u>
B57.08 Removal of existing, temporary or permanent roadmarkings by:	
(a) Sand blasting	Sum
(b) Overpainting as temporary measure	Sum

The unit of measurement shall be the lump sum to compensate the contractor for the establishment and removal of the painting unit after the retention period.

The tendered lump sum shall include full compensation for the establishment on site and for the removal of all equipment, personnel, etc. as may be required for the application of the road marking.

SECTION LANDSCAPING AND PLANTING GRASS**B5802 MATERIALS****(c) Grass seeds**

Add the following:

"The seed mixture to be used for borrow pit areas shall be:

Eragrostis Curvula "Selected"	:	3kg/ha
Eragrostis Tef	:	2kg/ha

Chloris Gayana	:	9kg/ha
Cynodon Dactylon	:	5kg/ha
Pioneer seed	:	<u>10kg/ha</u>
		<u>29kg/ha</u>

The seed mixture to be used on cut and fill slopes shall be:

Eragrostis Curvula "Selected"	:	3kg/ha
Eragrostis Tef	:	2kg/ha
Cynodon Dactylon	:	7kg/ha
Chloris Gayana	:	5kg/ha
Cenchrus Ciliaris	:	5kg/ha
Digitaria Eriantha	:	4kg/ha
Pioneer seed	:	<u>10kg/ha</u>
		<u>36kg/ha</u>

The 10kg of pioneer seed specified shall consist of the following mixture of seeds:

Aristida Adscensionis	:	2kg/ha
Chloris Virgata	:	2kg/ha
Eleusine Coracana Subsp. Africana	:	2kg/ha
Melinis Repens Subsp. Repens	:	2kg/ha
Urochloa Panicoides	:	2kg/ha

The contractor shall make his own arrangements to obtain the specified seed mixtures. Should specific species not be available, alternative seeds may be proposed by the contractor for consideration by the engineer at tender stage."

B5809 MEASUREMENT AND PAYMENT

Add the following items:

<u>Item</u>	<u>Unit</u>
B58.10 Extra work for landscaping	Prov Sum
<u>Item</u>	<u>Unit</u>
B58.11 Irrigation of the area	Prov Sum
<u>Item</u>	<u>Unit</u>
B58.12 Water Feature	Prov Sum
<u>Item</u>	<u>Unit</u>
B58.14 Lighting of the area	Prov Sum

SECTION 5900: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

B5902 FINISHING THE ROAD AND ROAD RESERVE

Add the following to the first paragraph:

"The contractor shall pay special attention to the collection and removal of all waste materials originating from the construction activities. All materials trimmed or excavated

from the road shall be collected and removed from the road reserve to the satisfaction of the engineer.

This requirement shall be deemed to be incorporated in the tendered rates for item 59.01 of the bill of quantities or such other items as the contractor may decide upon.

The engineer may order additional finishing of the road reserve which will entail the collection and disposal of loose rocks etc. Payment for this work will be made under daywork items included in section 5900 of the bill of quantities as described in section 1800 of these project specifications."

SECTION 6400 : CONCRETE FOR STRUCTURES

B6402 MATERIALS

(a) Cement

Replace this sub-section with the following:

"Refer to section 1142 for specification of cement."

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

B6404 CONCRETE QUALITY

(b) Strength concrete

Add the following paragraph:

"The cement content for any class of structural concrete or mass concrete used in structures shall not be less than 300kg/m³ of concrete.

The contractor must provide the engineer with complete mix designs and materials for strength concrete at least six (6) weeks before the first concrete is cast on the project".

B6405 MEASURING THE MATERIALS

(c) Aggregates

Add the following:

"All concrete for structures shall be manufactured by mechanical mass batching unless authorised otherwise by the engineer for minor concrete structures or for labour-intensive methods."

B6407 PLACING AND COMPACTING

(a) General

Add the following after the third paragraph:

"Concrete shall only be placed up to 20:00 at the latest. Under exceptional circumstances the Engineer may allow night work on condition that proper lighting arrangements can be made and a new and rested shift for night work is provided and ambient temperatures are such as to not adversely affect the setting of the concrete."

B6408 CONSTRUCTION JOINTS

(a) General

Add the following:

"No construction joints other than those indicated on the drawings will be permitted without the written approval of the engineer".

B6409 CURING AND PROTECTING

Add the following:

The surface area of bridge and culvert floor slabs and decks shall be cured as follows:

- (i) The area of freshly cast and finished concrete surface shall be immediately covered as specified in clause 6409(e).
- (ii) After the concrete has set sufficiently the entire area shall be treated with an approved curing compound as specified in clause 6409(f)."

B6414 QUALITY OF MATERIALS AND WORKMANSHIP**(a) Criteria for compliance with the requirements**

Add the following:

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

Add the following new paragraph:

(d) Concrete cores - strength requirements

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

B6416 MEASUREMENT AND PAYMENT**ITEM****UNIT**

B64.01 **Cast in situ concrete:** cubic metre (m³)

Add the following after the first paragraph:

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

C3.4.3 PROJECT SPECIFICATIONS : ADDITIONAL SPECIFICATIONS

CONTENTS

- C3.4.3.1 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT REGULATIONS
- C3.4.3.2 ENVIRONMENTAL MANAGEMENT PLAN
- C3.4.3.3 PROVISION OF STRUCTURED TRAINING
- C3.4.3.4 PROVISION OF THE TEMPORARY WORKFORCE

C3.4.3.1 OCCUPATIONAL HEALTH AND SAFETY ACT 1993 : HEALTH AND SAFETY SPECIFICATION

CONTENTS

C3.4.3.1.1	INTRODUCTION
C3.4.3.1.2	SCOPE
C3.4.3.1.3	GENERAL OCCUPATIONAL HEALTH AND SAFETY PROVISIONS
C3.4.3.1.4	OPERATIONAL CONTROL
ANNEXURE 1:	MEASURING INJURY EXPERIENCE
ANNEXURE 2:	EXECUTIVE SHE RISK MANAGEMENT REPORT
ANNEXURE 3:	LIST OF RISK ASSESSMENTS

C3.4.3.1.1 Introduction

In terms of the Construction Regulation 4(1) (a) of the Occupational Health and Safety Act, No. 85 of 1993, Giyani Municipality, as the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective tenderer.

The Client's further duties are as in C3.5.1.3.1.1. below and in the Construction Regulations, 2003.

This specification has as objective to ensure that Principal Contractors entering into a Contract with the Ba-Phalaborwa Municipality achieve an acceptable level of OH&S performance. This document forms an integral part of the Contract and Principal and other Contractors should make it part of any Contracts that they may have with Contractors and/or Suppliers.

Compliance with this document does not absolve the Principal Contractor from complying with minimum legal requirements and the Principal Contractor remains responsible for the health & safety of his employees and those of his Mandataries.

C3.4.3.1.2 Scope

Development of a health & safety specification that addresses all aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that Principal Contractors and other Contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable.

C3.4.3.1.3 General Occupational Health & Safety Provisions

(a) Hazard Identification & Risk Assessment (Construction Regulation 7)

(i) Risk Assessments

Annexure 3 contains a list of Risk Assessment headings that have been identified by Greater Giyani Municipality as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is offered as an assistance to Contractors intending to tender.

Based on the Risk Assessments, the Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

The Risk Assessments, together with the site-specific OH&S rules must be submitted to the Greater Giyani Municipality before mobilisation on site commences.

Despite the Risk Assessments listed in Annexure 3, the Principal Contractor is required to conduct a baseline Risk Assessment and the aforesaid listed Risk Assessments must be incorporated into the base-line Risk Assessment. The baseline Risk Assessment must further include the Standard Working procedures (SWP) and the applicable Method Statements based on the Risk Assessments

All out-of-scope work must be associated with a Risk Assessment.

(ii) Review of Risk Assessments

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each Production Planning and Progress Report meeting as the Contract work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors and all other concerned-parties with copies of any changes, alterations or amendments as contemplated in above.

(b) Legal Requirements

All Contractors entering into a Contract with the Greater Giyani Municipality shall, as a minimum, comply with the

- Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-to-date copy of the OHS Act must be available on site at all times
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993). The principal Contractor will be required to submit a letter of Registration and "good-standing" from the Compensation Insurer before being awarded the Contract. A current, up-to-date copy of the COID Act must be available on site at all times.
- Where work is being carried out on mines' premises the Contractor will have to comply with the Mine Health & Safety Act and Regulations (Act. 29 of 1996) and any other OH&S requirements that the mine may specify. A current, up-to-date copy of the OHS Act must be available on site at all times.

(c) Structure and Responsibilities

(i) Overall Supervision and Responsibility for OH&S

- * It is a requirement that the Principal Contractor, when he appoints Contractors (Sub-contractors) in terms of Construction Regulations 5(3), (5), (9), (10) and (12) he includes an OHS Act Section 37(2) agreement: "Agreement with Mandatary" in his agreement with such Contractors.

* Any OH&S Act (85/1993), Section 16(2) appointee/s as detailed in his/her/their respective appointment forms

(ii) Further (Specific) Supervision Responsibilities for OH&S

The Contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. Below is a list of identified appointments and may be used to select the appropriate appointments for the current contract:

	Ref. Section/Regulation in OHSAct
Batch Plant Supervisor	(Construction Regulation 6(1))
Construction Vehicles/Mobile Plant/Machinery Supervisor	(Construction Regulation 21)
Demolition Supervisor	(Construction Regulation 12)
Drivers/Operators of Construction Vehicles/Plant	(Construction Regulation 21)
Electrical Installation and Appliances Inspector	(Construction Regulation 22)
Emergency/Security/Fire Coordinator	(Construction Regulation 27)
Excavation Supervisor	(Construction Regulation 11)
Explosive Powered Tool Supervisor	(Construction Regulation 19)
Fall Protection Supervisor	(Construction Regulation 8)
First Aider	(General Safety Regulation 3)
Fire Equipment Inspector	(Construction Regulation 27)
Formwork & Support work Supervisor	(Construction Regulation 10)
Hazardous Chemical Substances Supervisor	(HCS Regulations)
Incident Investigator	(General Admin Regulation 29)
Ladder Inspector	(General Safety Regulation 13A)
Lifting Equipment Inspector	(Construction Regulation 20)
Materials Hoist Inspector	(Construction Regulation 17)
OH&S Committee	(OHS Act Section 19)
OH&S Officer	(Construction Regulation 6(6))
OH&S Representatives	(OHS Act Section 17)
Person Responsible for Machinery	(General Machinery Regulation 2)
Scaffolding Supervisor	(Construction Regulation 14)
Stacking & Storage Supervisor	(Construction Regulation 26)
Structures Supervisor	(Construction Regulation 9)
Suspended Platform Supervisor	(Construction Regulation 15)
Tunneling Supervisor	(Construction Regulation 13)
Vessels under Pressure Supervisor	(Vessels under Pressure Regulations)
Working on/next to Water Supervisor	(Construction Regulation 24)
Welding Supervisor	(General Safety Regulation 9)

The appointments must be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information must be communicated and agreed with the appointees.

Copies of appointments must be submitted to the Greater Giyani Municipality together with concise CV's of the appointees. All appointments must be officially approved by Giyani Giyani Municipality. Any changes in appointees or appointments must be communicated to Greater Giyani Municipality forthwith.

The Principal Contractor must, furthermore, provide Greater Giyani Municipality with an organogram of all Contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

In addition Greater Giyani Municipality may require that a Traffic Safety Officer be appointed for any project.

(iii) Designation of OH&S Representatives (Section 18 of the OHS Act)

OH&S Representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

(iv) Duties and Functions of the OH&S Representatives (Section 19 of the OHS Act)

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor

OH&S representatives must be included in accident/incident investigations

OH&S representatives must attend all OH&S committee meetings.

(v) Appointment of OH&S Committee (Section 20 of the OHS Act)

The Principal Contractor must establish an OH&S Committee consisting of all the designated OH&S Representatives together with a number of management representatives that are not allowed to exceed the number of OH&S representatives on the committee and a representative of the Client who shall act as the chairman without a vote. The members of the OH&S committee must be appointed in writing.

The OH&S Committee must meet minimum monthly and consider, at least, the following Agenda:

1. Opening & Welcome
2. Present/Apologies/Absent
3. Minutes of previous Meeting
4. Matters Arising from the previous Minutes
5. OH&S Reps Reports
6. Incident Reports & Investigations
7. Incident/Injury Statistics
8. Other Matters
9. Endorsement of Registers and other statutory documents by a representative of the Principal Contractor
10. Close/Next Meeting

(d) Administrative Controls and the Occupational Health & Safety File

(i) The OH&S File (Construction Regulation 5 (7))

As required by Construction Regulation 5(7), the Principal Contractor and other Contractors will each keep an OH&S File on site containing the following documents as a minimum:

- * Notification of Construction Work (Construction Regulation 3.)
- * Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- * Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
- * OH&S Programme agreed with the Client including the underpinning Risk Assessment/s & Method Statements (Construction regulation 5 (1))

- * Copies of OH&S Committee and other relevant Minutes
- * Designs/drawings (Construction Regulation 5 (8))
- * A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor (Construction Regulation 9)
- * Appointment/Designation forms as per (a)(i) & (ii) above.
- * Registers as follows:
 - * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
 - * OH&S Representatives Inspection Register
 - * Asbestos Demolition & Stripping Register
 - * Batch Plant Inspections
 - * Construction Vehicles & Mobile Plant Inspections by Controller
 - * Daily Inspection of Vehicles. Plant and other Equipment by the Operator/ Driver/User
 - * Demolition Inspection Register
 - * Designer's Inspection of Structures Record
 - * Electrical Installations, -Equipment & -Appliances (including Portable Electrical Tools)
 - * Excavations Inspection
 - * Explosive Powered Tool Inspection, Maintenance, Issue & Returns Register (incl. cartridges & nails)
 - * Fall Protection Inspection Register
 - * First Aid Box Contents
 - * Fire Equipment Inspection & Maintenance
 - * Formwork & Support work Inspections
 - * Hazardous Chemical Substances Record
 - * Ladder Inspections
 - * Lifting Equipment Register
 - * Materials Hoist Inspection Register
 - * Machinery Safety Inspection Register (incl. machine guards, lock-outs etc.)
 - * Scaffolding Inspections
 - * Stacking & Storage Inspection
 - * Inspection of Structures
 - * Inspection of Suspended Platforms
 - * Inspection of Tunnelling Operations
 - * Inspection of Vessels under Pressure
 - * Welding Equipment Inspections
 - * Inspection of Work conducted on or Near Water
 - * All other applicable records

Greater Giyani Municipality will conduct an audit on the OH&S file of the Principal Contractor from time-to-time.

(e) OH&S Goals & Objectives & Arrangements for Monitoring & Review of OH&S Performance

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 1. to this document: "Measuring Injury Experience) and report on this to Greater Giyani Municipality on a monthly basis

(f) Notification of Construction Work (Construction Regulation 3.)

The Principal Contractor must, where the Contract meets the requirements laid down in Construction Regulation 3, within 5 working days, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for the purpose. A copy must be held on the OH&S File and a copy must be forwarded to Greater Giyani Municipality for record keeping purposes.

(g) Training, Awareness and Competence

The contents and syllabi of all training required by the Act and Regulations are to be included in the Principal Contractor's OH&S Plan.

(i) General Induction Training

All members of Contractor's Site management as well as all the persons appointed as responsible for OH&S in terms of the Construction and other Regulations will be required to attend a general induction session by the Client

All employees of the Principal and other Contractors to be in possession of proof of General Induction training.

(ii) Site Specific Induction Training

The Principal Contractor will be required to develop Contract work project specific induction training based on the Risk Assessments for the Contract work and train all employees and other Contractors and their employees in this.

All employees of the Principal and other Contractors to be in possession of proof of Site Specific OH&S Induction training at all times.

(iii) Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training as follows:

OH&S Training Requirements: (as required by the Construction Regulations and as indicated by the OH&S Specification & the Risk Assessment/s):

- * General Induction (Section 8 of the Act)
- * Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- * Site/Project Manager
- * Construction Supervisor
- * OH&S Representatives (Section 18 (3) of the Act)
- * Training of the Appointees indicated above
- * Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- * Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
- * Basic First Aid (General Safety Regulations 3)
- * Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- * Emergency, Security and Fire Co-coordinator

(iv) Awareness & Promotion

The Principal Contractor is required to have a promotion and awareness scheme in place to create an OH&S culture in employees. The following are some of the methods that may be used:

- Toolbox Talks
- OH&S Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as OH&S Safety circles.

(v) Competence

The Principal Contractor shall ensure that his and other Contractors personnel appointed are competent and that all training required to do the work safely and without risk to health, has been completed before work commences

The Principal Contractor shall ensure that follow-up and refresher training is conducted as the contract work progresses and the work situation changes.

Records of all training must be kept on the OH&S File for auditing purposes.

(h) Consultation, Communication and Liaison

OH&S Liaison between the Client, the principal Contractor, the other Contractors, the Designer and other concerned parties will be through the OH&S committee as contemplated in above.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/ situations etc.

The Principal Contractor will be required to do Site Safety Walks with greater Giyani Municipality at least on a basis to be determined between the two parties.

The Principal and other Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees must acknowledge the receipt of Toolbox Talks which record must, likewise be kept on the OH&S File.

The Principal Contractors most senior manager on site will be required to attend all Greater Giyani Municipality OH&S meetings and

a list of dates, times and venues will be provided to the Principal Contractor by Greater Giyani Municipality.

(i) Checking, Reporting and Corrective Actions

- (i) Monthly Audit by Client (Construction Regulation 1(d))

Greater Giyani Municipality will be conducting a Monthly Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

(ii) Other Audits and Inspections by Greater Giyani Municipality:

Greater Giyani Local Municipality reserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include Site Safety Walks.

(iii) Conducting an Audit

A representative of the Principal Contractor must accompany Greater Giyani Municipality on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

(iv) Contractor's Audits and Inspections

The Principal Contractor is to conduct his own monthly internal audits to verify compliance with his own OH&S Management system as well as of with this specification.

(v) Inspections by OH&S Representative's and other Appointees

OH&S Representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments e.g. vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

(vi) Recording and Review of Inspection Results

All the results of the abovementioned inspections to be in writing, reviewed at OH&S committee meetings, endorsed by the chairman of the meeting and placed on the OH&S File.

(vii) Reporting of Inspection Results

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 2: "SHE Risk Management Report"

(j) Incident Reporting and Investigation

Reporting of Accidents and Incidents (Section 24 and General Administrative Regulation 8 of the OHS Act)

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- * dies
- * becomes unconscious
- * loses a limb or part of a limb
- * is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

- * a major incident occurred
- * the health or safety of any person was endangered
- * where a dangerous substance was spilled
- * the uncontrolled release of any substance under pressure took place
- * machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects

* machinery ran out of control

to Greater Giyani Municipality within two days and to the Provincial Director of the Department of Labour within seven days (Section 24 of the Act & General Administrative Regulation 8.) EXCEPT that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both Greater Giyani Municipality and the Provincial Director of the Department of Labour forthwith by telephone, telefax or E-mail.

The Principal Contractor is required to provide Greater Giyani Municipality with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring.

The Principal Contractor is required to provide Greater Giyani Municipality with copies of all internal and external accident/incident investigation reports including the reports contemplated below within 7 days of the incident occurring.

Accident and Incident Investigation (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic

The results of the investigation to be entered into the Accident/Incident Register listed in above.

The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Greater Giyani Municipality reserves the right to hold its own investigation into an incident or call for an independent external investigation.

C3.4.3.1.4 Operational Control

(a) Emergency Preparedness, Contingency Planning and Response

The Principal Contractor must appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that Greater Giyani Municipality may have in place.

The Principal Contractor and the other Contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

(b) First Aid (General Safety Regulation 3)

The Principal Contractor must provide First Aid equipment (including a stretcher) and have qualified First Aider/s as required by General Safety Regulation 3 of the OHS Act.

The Contingency Plan of the Principal Contractor must include the arrangements for speedily and timeously transporting injured/ill person/s to a medical facility or of getting emergency medical aid to person/s that may require it.

The Principal Contractor must have firm arrangements with his other Contractors in place regarding the responsibility of the other Contractors injured/ill employees

(c) Security

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period

(d) Fall Protection (Working in Elevated Positions (Construction regulation 8.)

A pre-emptive Risk Assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as "Work in Elevated Positions".

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing a single belt with lanyard that will be worn to prevent the person falling from the platform, ladder or other device utilised. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length that the person will not be able to move over the edge.

Alternatively any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with guard rails at two different heights as prescribed in SABS 085: Code of Practice for the Design, Erection, Use and Inspection of Access Scaffolding.

Where the requirement in is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device OR the person must be attached to an approved, by Greater Giyani Municipality, fall arrest system.

Where the requirements are not practicable, a suitable catch net must be erected.

Workers working in elevated positions must be trained to do this safely and without risk to health

Where work on roofs is carried out, the Risk Assessment must take into account the possibility of persons falling through fragile material. Skylights and openings in the roof.

C3.4.3.1.5 Measurement and Payment

Payment for the contractor's obligations in respect of the Occupational Health and Safety act and Construction Regulations shall be made through three payment items described below. The three payment items together shall include full compensation for all personnel (including

a dedicated full time Construction Safety Officer), cost and incidentals in respect of compliance with the enforcement of the Health and Safety Specifications, which shall include for the compilation, presentation, implementation and maintenance of the Health and Safety Plan as contemplated. In tendering rates for the three items the contractor shall ensure that the sum of the amounts for the three items shall not be less than one percent (1%) of the Tender Amount.

Item	Unit
C1.1 Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Lump Sum

The full amount will be paid in one instalment only once:-

- (a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- (b) The contractor has made the required initial appointments of employees and sub-contractors.
- (c) The client has approved the contractor's Health and Safety Plan.
- (d) The contractor has set up his Health and Safety File.

Item	Unit
C1.2 Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Month

The tendered monthly amount shall represent full compensation for that part of the contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item C1.1 has been made.

Item	Unit
C1.3 Submission of the Health and Safety File	Lump Sum

The tendered lump sum shall represent full compensation for the contractor meeting all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and for the preparation and submission of his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

This amount will be paid only once the contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

C3.4.3.1.6 Project/Site Specific Requirements

See Annexure 3

Annexure 1: Measuring Injury Experience

Annexure 2: SHE Risk Management Report

Annexure 3. List of Risk Assessments

ANNEXURE 1: MEASURING INJURY EXPERIENCE

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called "DIFR". The DIFR is calculated by multiplying the number of disabling injuries by 1 million and dividing by the number of man-hours worked.

Lately the DIFR has been replaced internationally with a DIIR: disabling injury incidence rate. The only difference between the two rates are that the 10 million in the calculation is replaced with 200 000. (200 000 purported to be the number of hours and average person works in a lifetime.)

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often "hidden" by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The Construction Industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims as these are more difficult to hide or manipulate because the reporting of compensable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

Below follows an explanation of this new rating system.

COMPENSATION INCIDENCE FREQUENCY RATE (CIFR)

FORMULA

No. of Compensation Claims X 200 000 /

*220 man hours X No. of Employees

DEFINITIONS

No. of Compensation

Claims: **The number of claims lodged with the COID insurer for the period under review**

200 000: The fixed factor to align the rate with other rates used internationally

Manhours Worked

Include: * Hourly Paid Employees
 * Sub-contactors (No. of Employees X *220 each)
 * Staff (No. of Employees X *220 hours each)

220 manhours: The *average number of hours worked by one employee in one month in the Construction industry.

* Overtime, absence on leave or sick leave, unrecorded after hours time worked by senior and middle management factored into this average.

No. of Employees: The actual or average number of employees employed for the period under review.

2002/03CIFRSystem

ANNEXURE 2: EXECUTIVE SHE RISK MANAGEMENT REPORT

The SAFCEC OH&S committee recently developed the following report in an attempt to standardise on reporting and assist contractors in obtaining a clear picture of their SHE Risk Management performance. It is hoped that clients will also accept this standardised report. Your comments/suggestions for improvement is invited.

EXAMPLE ONLY: ALL INFORMATION IS FICTITIOUS

XYZ construction

*SHE RISK MANAGEMENT REPORT

PERIOD JANUARY TO MARCH 2002

*(SHE = Safety, Health & Environment)

1. Introduction

We hope that this new format of quarterly SHE Risk Management reporting will provide a clear picture of the company's performance as far as occupational health & safety is concerned.

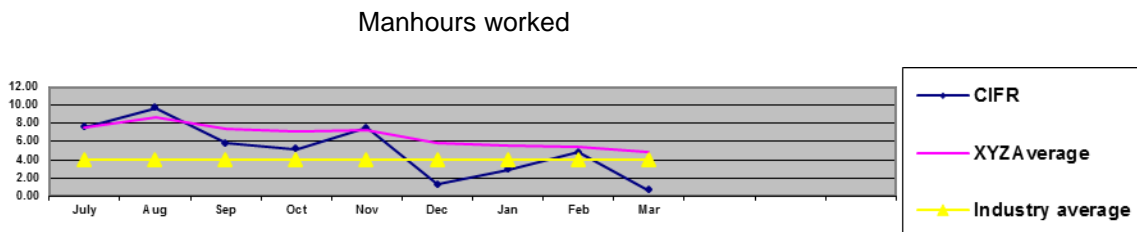
The first quarter of 2002 generally reflected an improvement in injury experience and shows a decline in the number of injuries. Although Building was the only division where there was an increase in compensation claims, figures are still well down from the average 2001 figures. A sub-contractor experienced one fatality.

All divisions are eagerly awaiting the final implementation in May of the new electronic SHE Management system that will make the tools to implement the SHE programme available to all management and supervisory staff.

2. Incident Statistics

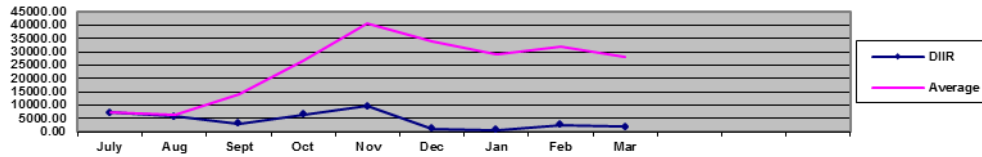
Compensation Incident Frequency Rate (CIFR)

CIFR = Total No. of Claims against the Workmen's Compensation Fund X 200 000



2. Disabling Injury Incidence Rate (DIIR)

$$\text{DIIR} = \frac{\text{No. Disabling Injuries} \times 200\,000}{\text{Manhours worked}}$$



2.3. Other Major Incidents

Three other major incidents were experienced in the period under review:

- 2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Bochum: No personnel injured, extensive damage to foundations: 3 days delay.
- 2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Polokwane. The driver jumped off and was not injured. Cost of damage to façade: R45 000.
- 2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartruggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and levelling machines. Cost of replacing the hut and machines: R30 000

3. RISK AREAS

The following items of concern need priority consideration by management:

- 3.1. New employees must undergo pre-employment medical examinations to:
 - protect XYZ from claims at a later stage
 - ensure that only healthy persons are employed
 - prevent injuries and illness in the workplace
 - enhance XYZ image
- 3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

4. AUDITS

Three SHE audits were conducted in February and March:

- 4.1. Job 00432: Gillooly's Mall Compliance: 56%(*)
- Job 00786: Cullinan Head Office Compliance: 83%(****)

Job 00589: Cleveland Station

Compliance: 76%(***)

5. TRAINING

One hundred and forty two employees, representing 7% of employees, attended nine training courses. *Our objective is to train 5,5% of employees quarterly.

Month	No. of Employees Trained	Course	Source
January	26	Induction	Internal
	15	OH&S Reps	Consultant
	3	Crane Drivers	External
February	23	Induction	Internal
	17	OH&S Reps	Consultant
March	43	Induction	Internal
	9	OH&S Reps	Consultant
	3	Bomag Rollers	Supplier
	3	First Aiders	St. John's

6. LEGAL ISSUES

- 6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Gillooly's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SABS 085). This is currently being attended to and the inspector will return on 15 April 2002 to ascertain if the notice has been complied with.

8. OCCUPATIONAL AIND OTHER HEALTH MATTERS

8.1. HIV Aids

The proposed SAFCEC clinic will soon be operational and we will then be able to send our employees who have tested positive to the clinic for counselling and eventual treatment when necessary

The mobile clinic saw and tested fifty employee volunteers at 3 sites this month. Eighteen of them tested positive.

8.2. Tuberculosis

The mobile clinic will be calling at Gillooly's Mall and Cleveland Station on 15 and 16 October respectively to screen employees for TB.

8.3. Noise

All suspected noise pollution areas have been tested and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

9. **ENVIRONMENTAL MEASURES**

Inspectors from the Botswana Department of the Environment visited Djwaneng and inspected the site and yard. They gave it a “clean bill of health” and advised that we should increase the dust control measures by spraying roads three times per day instead of the present twice per day.

10. **ACHIEVEMENTS/AWARDS**

- 10.1. The client at Djwaneng (Job 00786) awarded the XYZ site first position in the housekeeping competition conducted bi-monthly by the client’s SHE managers. The project manager and his team are to be congratulated for this sterling effort.
- 10.2. Job 0987: Refurbishment of Pretoria Main Railway Station has just completed 1million compensation claim free days. This was no easy achievement if we consider the conditions being worked under after the extensive fire that caused major damage.

SHE Risk Manager

2002.09.27

ANNEXURE 3: LIST OF RISK ASSESSMENTS

- * Clearing & Grubbing of the Area/Site
- * Site Establishment including:
 - Office/s
 - Secure/safe storage for materials, plant & equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
- * Dealing with existing structures
- * Location of existing services
- * Installation and maintenance of temporary construction electrical supply, lighting and equipment
- * Adjacent land uses/surrounding property exposures
- * Boundary and access control/Public Liability Exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- * Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
- * Exposure to noise
- * Exposure to vibration
- * Protection against dehydration and heat exhaustion
- * Protection from wet & cold conditions
- * Dealing with HIV/Aids and other diseases
- * Use of Portable Electrical Equipment including
 - Angle grinder
 - Electrical drilling machine
 - Skill saw
- * Excavations including
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench
- * Welding including
 - Arc Welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances
- * Loading & offloading of trucks
- * Aggregate/sand and other materials delivery
- * Manual and mechanical handling
- * Lifting and lowering operations
- * Driving & operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Bomag roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles & mobile plant
 - Towing of vehicles & mobile plant
- * Use and storage of flammable liquids and other hazardous substances
- * Layering and bedding
- * Installation of pipes in trenches

- * Pressure testing of pipelines
- * Backfilling of trenches
- * Protection against flooding
- * Gabion work
- * Use of explosives
- * Protection from overhead power lines
- * As discovered by the Principal Contractor's hazard identification exercise
- * As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site
- * As discovered from any accident/incident investigation.



GREATER GIYANI MUNICIPALITY

CONTRACT No. G/G/M/6104/009/2021 FOR NDHAMBI TAXI RANK

C3.4.3.2 ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS

C3.4.3.2.1	SCOPE
C3.4.3.2.2	DEFINITIONS
C3.4.3.2.3	IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS
C3.4.3.2.4	LEGAL REQUIREMENTS
C3.4.3.2.5	ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS
C3.4.3.2.6	TRAINING
C3.4.3.2.7	ACTIVITIES/ASPECTS CAUSING IMPACTS
C3.4.3.2.8	ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES
C3.4.3.2.9	RECORD KEEPING
C3.4.3.2.10	COMPLIANCE AND PENALTIES
C3.4.3.2.11	MEASUREMENT AND PAYMENT

C3.4.3.2.1. SCOPE

This environmental management programme (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects notification period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract. In the event that any conflict occurs between the terms of the EMP and the project specifications or Record of Decision, the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the Greater Giyani Municipality in writing for approval.

The EMP identifies the following:

Construction activities that will impact on the environment.

Specifications with which the contractor shall comply in order to protect the environment from the identified impacts.

Actions that shall be taken in the event of non-compliance.

C3.4.3.2.2. DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process as defined in the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7, 1998)

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental Impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Record of Decision: a record of decision is a written statement from the Limpopo Department of Economic Development, Environment and Tourism, that records its approval of a planned undertaking to improve, upgrade or rehabilitate a section of road and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Road Reserve: the road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Road Width: for the purposes of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

C3.4.3.2.3. IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- stormwater discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he/she is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to subclause 8.3 as amended by Particular Condition of the general conditions of contract and clause B1204 of these project specifications.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

Pollution of atmosphere, soil or water
Destruction or removal of fauna and flora and effect on biological diversity
Deformation of the landscape
Soil erosion
Destruction of historical/heritage sites
Effect on the built environment
Effect on agricultural land and wetlands

General good construction practice will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn, in this regard, to C1008. Environmental Management of Construction Activities

C3.4.3.2.4. LEGAL REQUIREMENTS

a) General

Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

b) Statutory and other applicable legislation

The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

C3.4.3.2.5. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

a) Appointment of a Designated Environmental Officer (DEO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

There shall be an approved DEO on the site at all times.

b) Administration

Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following:

The type of construction activity.

Locality where the activity will take place.

Identification of the environmental aspects and impacts that might result from the activity.

Methodology for impact prevention for each activity or aspect.

Methodology for impact containment for each activity or aspect.

Emergency/disaster incident and reaction procedures.

Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

c) Good Housekeeping

The Contractor shall undertake “good housekeeping” practices during construction as stated in clause 1217 of the COLTO Standard Specifications for Roads and Bridges and subclauses 4.18 and 11.11 of the General Conditions of Contract. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

C3.4.3.2.6. TRAINING

The designated environmental officer (DEO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency’s environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he/she intends concluding his environmental training obligations.

C3.4.3.2.7. ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end of this part. This list is not exhaustive, and shall be used for guideline purposes only.

C3.4.3.2.8. ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

a) Site Establishment

i) Site Plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site. Read with COLTO Specification 1302(a), 1402 (e).

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring, shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. (Read in conjunction with COLTO Specification 5801(b), 5802(b), (c), (d) and (e), 5804, 5805, 5806 and 5807). Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for human consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.

v) Heating and Cooking fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer. Read with COLTO Specifications 1402(g) and 1404(a).

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

c) Waste Management

The contractor's intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

i) Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs and Forestry (DWAF) licensed landfill site or at a site approved by DWAF in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site. Read with COLTO Specification 1404(a).

ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites. (Read with COLTO Specification 1302(b)).

iii) Hazardous waste

Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. Any spillage of tar or bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the engineer.

d) Control at the workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

iii) Fuel and Gas Storage

Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers.. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the Site

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any

disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be responsible for the re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defects notification period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. (Read with COLTO Specifications 3104(a), 5802(a), (g), 5804(a), (b) and (c)). The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layerworks

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy, that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he is in possession of the approved EMP or a copy thereof, prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Bill of Quantities. (Read with COLTO Specification 3100 and 3200).

ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when

there is no construction activity. (Read with COLTO Standard Specification clauses 1217 and 3309)

iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilising methods. The engineer may only approve a completed spoil site at the end of the defects notification period upon receipt from the contractor of a landowner's clearance notice and an engineer's certificate certifying slope stability (Read with COLTO standard Specifications clause 1214). The contractor's costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the tendered rates for spoiling.

iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer and the relevant Authority is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in-situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated. (Read with COLTO Specification 3203 and 4306).

v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard. The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the times and delays to be expected for each individual blast.

i) Batching sites

Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

j) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be re-vegetated according to the engineer's instructions

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

k) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

i) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The South African Heritage Research Agency (SAHRA) is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. (Read with COLTO General Condition of Contract Subclause 4.24 as amended by Particular Condition).

ii) Graves and middens

If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/middens shall be stopped and the engineer informed of the discovery. SAHRA should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The Employer will be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with COLTO General Conditions of Contract Subclause 4.24 as amended by Particular Condition).

l) Noise Control

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

m) Dust Control

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant office of the Department of Minerals and Energy.

n) Alien Vegetation

The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the defects notification period.

C3.4.3.2.9. RECORD KEEPING

The engineer and the DEO will continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.

C3.4.3.2.10. COMPLIANCE AND PENALTIES

The contractor shall act immediately when such notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings.

Any avoidable non-compliance with the above-mentioned measures shall be considered sufficient ground for the imposition of a penalty

The following penalties shall apply for environmental violations:

a) Unnecessary removal or damage to trees

- | | | |
|---|---|------------------|
| • 2600mm girth or less | : | R 5 000 per tree |
| • Greater than 2600mm, but less than 6180mm girth | : | R10 000 per tree |
| • Greater than 6180mm girth | : | R30 000 per tree |

b) Serious violations:

- | | | |
|--|---|-------------------------------|
| • Hazardous chemical/oil spill and/or dumping in non-approved sites. | : | R10 000 per incident |
| • General damage to sensitive environments. | : | R 5 000 per incident |
| • Damage to cultural and historical sites. | : | R 5 000 per incident |
| • Uncontrolled/unmanaged erosion (plus rehabilitation at contractor's cost). | : | R1 000 to R5 000 per incident |
| • Unauthorised blasting activities. | : | R 5 000 per incident |
| • Pollution of water sources. | : | R 10 000 per incident |

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final.

c) Less serious violations:

• Littering on site.	:	R1 000 per incident
• Lighting of illegal fires on site.	:	R1 000 per incident
• Persistent or un-repaired fuel and oil leaks.	:	R1 000 per incident
• Excess dust or excess noise emanating from site.	:	R1 000 per incident
• Dumping of milled material in side drains or on grassed areas:	:	R1 000 per incident
• Possession or use of intoxicating substances on site. :	:	R 500 per incident
• Any vehicles being driven in excess of designated speed limits.	:	R 500 per incident
• Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife.	:	R2 000 per incident
• Illegal hunting.	:	R2 000 per incident
• Urination and defecation anywhere except in designated areas.	:	R 500 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

C3.4.3.2.11. MEASUREMENT AND PAYMENT

The cost of complying to this specification shall be deemed to be included in the rates tendered for this project.

Item	Unit
C100.01	Penalty for unnecessary removal or damage to trees for the following diameter sizes
(a) 2600mm girth or less	number (No)
(b) Greater than 2600mm, but less than 6180mm girth	number (No)
(c) Greater than 6180mm girth	number (No)

The unit of measurement shall be the number of trees by diameter size removed unnecessary or damaged. The penalty rates applied shall be those stated in clause C3.5.2.10.

Item	Unit
C100.02	Penalty for serious violations
(a) Hazardous chemical/oil spill and/or dumping in non-approved sites	number (No)
(b) General damage to sensitive environments	
(c) Damage to cultural and historical sites	number (No)
(d) Pollution of water sources	number (No)

- | | | |
|-----|--|-------------|
| (e) | Unauthorised blasting activities | number (No) |
| (f) | Uncontrolled/unmanaged erosion
per incident, depending on environment impacts, plus
rehabilitation at contractor's cost) | number (No) |

The unit of measurement for C100.02 (a) to (f) shall be the number of serious violation incidents. The penalty rates to be applied shall be those stated in clause C3.5.2.10.

Item	Unit
C100.03	Penalty for less serious violations
• Littering on site	number (No)
• Lighting of illegal fires on site	number (No)
• Persistent or un-repaired fuel and oil leaks	number (No)
• Excess dust or excess noise emanating from site	number (No)
• Dumping of milled material in side drains or on grassed areas	number (No)
• Possession or use of intoxicating substances on site	number (No)
• Any vehicles being driven in excess of designated speed limits	number (No)
• Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife	number (No)
• Illegal hunting	number (No)
• Urination and defecation anywhere except in designated areas	number (No)

The unit of measurement shall be the number of less serious violation incidents. The penalty rates applied shall be those stated in clause C3.5.2.10.

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS				
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
1300	Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
1400	Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
1500	Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
1600	Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	
1700	Clearing and	Waste treatment	Selection of site	Selection of site	Protection of indigenous	

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS				SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	
	grubbing	Hazardous waste Water supply Noise /lights Dust control	Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	vegetation Preserve topsoil	
2100 - 2400	Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3100	Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3200	Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3300	Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3400 - 3900	Pavement layers	Waste treatment Hazardous waste Water supply Spillage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	

SECTION	CONTENTS	ENVIRONMENTAL IMPACTS					SENSITIVE AREAS (to be completed by compiler)
		POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION		
		Storage Noise / lights Dust control	Demarcate sensitive areas Maintenance of windrows	Preserve topsoil	Management of weeds		
4100	Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles Parking areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil		
5000	Ancillary roadworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
6000	Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		
7000	Concrete pavements etc	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds		

C3.4.3.3 PROVISION OF STRUCTURED TRAINING

CONTENTS

- C3.4.3.3.1 SCOPE
- C3.4.3.3.2 GENERIC TRAINING
- C3.4.3.3.3 ENTREPRENEURIAL SKILLS TRAINING
- C3.4.3.3.4 MEASUREMENT AND PAYMENT

C3.4.3.3.1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

C3.4.3.3.2 GENERIC TRAINING

C3.4.3.3.2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

C3.4.3.3.2.2 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

C3.4.3.3.2.3 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

- (a) A suitable venue with sufficient furniture, lighting and power.
- (b) All necessary stationery consumables and study material
- (c) Transport of the students (as necessary)

C3.4.3.3.2.4 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period. The Training Schedule should form part of the section 12 programme to be approved by the Engineer at the start of the project.

C3.4.3.3.2.5 The contractor's training programme shall be subject to the approval of Greater Giyani Municipality and the contractor shall if so instructed by Greater Giyani Municipality alter or amend the programme and course content if a need is identified once the contract commences.

C3.4.3.3.2.6 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form is illustrated in Part C5 of this document (form RDP 11 (E))

C3.4.3.3.3 ENTREPRENEURIAL SKILLS TRAINING

C3.4.3.3.3.1 Small contractors, subcontractors and the Project Steering Committee (PSC) will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

C3.4.3.3.3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

C3.4.3.3.3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

C3.4.3.3.3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

C3.4.3.3.3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor's work with that of the delivery of the structured training.

C3.4.3.3.3.7 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

- (a) A suitably furnished venue (if required) with lighting and power.
- (b) All necessary consumables, stationery and study material
- (c) Transport of the subcontractors (as necessary)

C3.4.3.3.3.7 All entrepreneurial training shall take place within normal working hours.

C3.4.3.3.3.8 The contractor's training programme shall be subject to the approval of Greater Giyani Municipality and the contractor shall if so instructed by Greater Giyani Municipality alter or amend the programme and course content if a need is identified once the contract commences.

C3.4.3.3.3.10 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form to be used is illustrated in Part C5 of this document, (form RDP 12 (E)).

C3.4.3.3.4 MEASUREMENT AND PAYMENT

<u>ITEM</u>	<u>UNIT</u>
E12.05 Provision for accredited training	
(a) Generic skills	Provisional sum
(b) Entrepreneurial skills	Provisional sum
(c) Handling cost and profit in respect of sub-item	

E12.05(a) and (b) above	percentage (%)
(d) Training venue (only if required)	lump sum

The prime cost sums are provided to cover the actual costs (including wages and the daily PSC reimbursement) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item E12.05 (c) is a percentage of the amount actually spent under sub-items E12.05(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for E12.05(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue.

Payment of the lump sum will be made after the provision of all the accredit training, issuing of all certificates and submission of all records as specified in the document.

C3.4.3.4 PROVISION OF THE TEMPORARY WORKFORCE

CONTENTS

C3.4.3.4.1 SCOPE

C3.4.3.4.2 INTERPRETATIONS

C3.4.3.4.3 PERMITTED SOURCES OF TEMPORARY WORKERS

C3.4.3.4.4 EMPLOYMENT RECORDS TO BE PROVIDED

C3.4.3.4.5 VARIATIONS IN WORKER PRODUCTION RATES

C3.4.3.4.6 TRAINING OF THE TEMPORARY WORKFORCE

C3.4.3.4.7 RECRUITMENT AND SELECTION PROCEDURES

C3.4.3.4.8 TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE

C3.4.3.4.9 LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

C3.4.3.4.10 THE SUBCONTRACTORS' WORKFORCES

C3.4.3.4.11 MEASUREMENT AND PAYMENT

C3.4.3.4.1 SCOPE

This Specification covers the provisions and requirements relating to the provision of the temporary workforce. Reference is also made to the Basic Conditions of Employment Act (Act 75 of 1997) with specific reference to the Sectorial Determination 2: Civil Engineering Sector

C3.4.3.4.2 INTERPRETATIONS

C3.4.3.4.2.1 Supporting documents

The Tender Rules, Conditions of Contract, Standard and Project Specifications, Drawings and statutory minimum requirements relating to the employment and remuneration of labour shall *inter alia* be read in conjunction with this Specification.

C3.4.3.4.2.1.2 Definitions and abbreviations

For the purposes of this specification, the definitions given in the Conditions of Contract, the Standard Specifications and the Project Specifications, together with the following additional definitions shall, unless the context dictates otherwise, apply:

- (a) "Key Personnel" means all contracts managers, site agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators, artisans and the like, and all other personnel in the permanent employ of the Contractor or Subcontractor who possess special skills and/or who play key roles in the Contractor's or Subcontractor's operation

- (b) "Project Committee" means a committee consisting of the Employer, the Engineer, the Contractor, (or their nominated representatives) as well as representatives of the temporary workforce, which is convened from time to time at the discretion of the Engineer, for the purposes of acting as an avenue for effective communication and liaison between all the parties referred to, in all matters pertaining to the Contract
- (c) "Subcontractor" means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the Works are sublet or subcontracted by the Contractor in accordance with the provisions of the Contract
- (d) "Worker" for the purposes of this Specification means any person, not being one of the Contractor's key personnel, nor any key personnel of any Subcontractor, who is engaged by the Contractor, a Subcontractor or the Employer to participate in the execution of any part of the Contract Works and shall include unskilled labour, semi-skilled and skilled labour, clerical workers and the like
- (e) "Workforce" means the aggregate body comprising all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all Subcontractors
- (f) "Project Steering Committee (PSC)" means a committee comprising mainly of representatives (to a maximum of 10) of the affected communities with additional members from Greater Giyani Municipality, the Contractor, Consultants and the Municipality. The PSC convenes at least once a month as well as when the need so dictates, for the purpose of recruiting labour for the project, to address community issues and for acting as an avenue for effective communication and liaison between all the parties.
- (g) "Liaison Officer" means a local representative of the temporary workforce, duly appointed through the PSC processes, to act on behalf of the workers and through whom all matters pertaining to the temporary workforce can be channelled.

C3.4.3.4.2.1.3 Status

Where any provisions or requirements of this Specification are in conflict with anything elsewhere set out in the Contract, the provisions and requirements of this Specification shall take precedence and prevail.

C3.4.3.4.3 PERMITTED SOURCES OF TEMPORARY WORKERS

The Contractor shall as far as possible make optimum use of the human resources outside his own workforce and the workforces of all subcontractors. The temporary workforce that is to be used in the execution of the Works in terms of Part C3 may consist of the workers of local communities, and shall not be bound to one particular community.

C3.4.3.4.4 EMPLOYMENT RECORDS TO BE PROVIDED

- (a) The Contractor shall maintain accurate and comprehensive records of all workers engaged on the Contract and shall provide the Engineer at monthly intervals from the commencement of the Contract, with interim records substantiating the actual numbers of employment opportunities that shall have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a Greater Giyani

Municipality approved format. An example of the forms to be used is illustrated in Part C5 of this document, (forms RDP 9 and 10 (E)).

- (b) The Contractor shall, on completion of the Contract, and as a pre-requisite event to the release of any retention money in terms of the Conditions of Contract, provide the Engineer with copies of the Terms of Employment as well as independently audited documentary evidence of the total number of temporary and permanent employment opportunities actually generated during the Contract.

C3.4.3.4.5 VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other provision of this Contract, the Contractor shall not be entitled to any additional payment or compensation whatever, in respect of any differences as may result between the production rates actually achieved by workers in the course of the execution of the Contract Works and those production rates on which he has based his tender.

C3.4.3.4.6 TRAINING OF THE TEMPORARY WORKFORCE

- (a) Selected members of the workforce are to be provided with structured training in accordance with the provisions of Part C3.4.3.3.
- (b) The Contractor shall make all necessary allowances in his programme of work to accommodate and facilitate the delivery of such structured training and shall comply fully with the requirements of Part C3.4.3.3.
- (c) The provision of structured training as described in Part C3.4.3.3. shall not relieve the Contractor of any of his obligations in terms of the Conditions of Contract and the Contractor shall remain fully liable for the provision, at his own cost, of all training of the workforce, additional to that as provided for in Part C3.4.3.3, as may be necessary to achieve the execution and completion of the works strictly in accordance with the provisions of the Contract.

C3.4.3.4.7 RECRUITMENT AND SELECTION PROCEDURES

- C3.4.3.4.7.1 The Project Steering Committee, though the assistance of the Social Facilitator and the Contractor, shall be responsible for the recruitment and selection of the Community Liaison Officer and the workers to constitute the temporary workforce.
- C3.4.3.4.7.2 The Contractor shall advise the Engineer in writing of the numbers of each category of temporary worker which he requires, together with the personal attributes which he considers desirable that each category of worker shall possess (taking due cognisance of the provisions of the Contract relating to training).
- C3.4.3.4.7.3 The Social Facilitator shall take the necessary actions to advertise within the affected local communities comprising the personnel resources, the fact that temporary employment opportunities exist and the time and place where recruiting will occur
- C3.4.3.4.7.4 The Social Facilitator shall record in writing, the details of all persons applying for employment, including *inter alia*:

- (a) Name, Identity Number, Date of Birth, age and sex
- (b) Marital status and number of dependants
- (c) Qualifications and previous work experience (whether substantiated or not)
- (d) On the job training programmes attended
- (e) Period since last economically active
- (f) Preference for type of work or task.

C3.4.3.4.7.5 The selection of workers from amongst the applicants should take into cognizance the Contractor's requirements for the workforce and the provisions of the contract in regard to the provision of training to the workforce and in accordance with the following principle:

- (a) No potential temporary worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless -
 - (i) all available vacancies have been or can be filled by temporary workers who already possess suitable skills, or
 - (ii) the Time for Completion allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of the necessary skills.
- (b) Preference shall be given to the unemployed and single heads of households.
- (c) The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected.
- (d) The selection process shall not be prejudicial to youth (over the age of fifteen years) and women. The Contractor should strive to achieve the participation target for employment set for this project which is 60% female and 20% youth.

C3.4.3.4.7.6 After making the selection, the Social Facilitator shall forward the list in writing and without undue delay, to the Engineer for record keeping.

C3.4.3.4.7.7 The provisions of this clause shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.

C3.4.3.4.7.8 The Contractor shall, after appointing his temporary workforce, arrange at his own cost for the appointment of the Liaison Officer as representative of the workforce to act on their behalf with regards to all matters pertaining to the workforce.

C3.4.3.4.8 TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE

C3.4.3.4.8.1 All temporary workers engaged in accordance with the provisions of Part A of the Project Specifications, shall be employed on the terms and conditions of employment as

are consistent with those as set out in this Contract. The Contractor shall implement and adhere strictly to such terms and conditions relating to the employment of the temporary workforce, and subject only to the provisions of this Contract, shall not employ any temporary worker on terms and conditions which are less favourable to the worker or inconsistent with the standards and norms generally applicable to temporary workers in the Civil Engineering Industry and applicable to the particular area. Refer to the Contract of Employment drafted/published by Department of Labour.

C3.4.3.4.8.2 RATE OF REMUNERATION.

The Contractor shall pay to all workers engaged in terms of the contract, not less than the applicable gazetted minimum rate of remuneration in terms of the Sectorial Determination 2: Civil Engineering Sector.

The remuneration of the CLO shall be paid monthly at the rate equivalent to Task Grade 3 in accordance with the provisions of the Basic Conditions of Employment Act, No. 75 of 1997, Amendment i.t.o Sectoral Determination 2: Civil Engineering Sector, South Africa

Compensation for transport for the members of the Project Steering Committee shall be made at a rate of R75 / month. This will cover for transport cost to and from the PSC meeting, site meeting and any other meeting deemed necessary to fulfil their obligations.

C3.4.3.4.8.3 NON-PAYMENT OF LABOURERS.

Under this contract it is expected of the Main Contractor to ensure that all labourers are paid in time on a monthly basis, whether they are employed by him/her directly or by any of his/her subcontractors. In the event of non-compliance, the employer reserves the right to use any remedies available at its disposal.

C3.4.3.4.9 LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

C3.4.3.4.9.1 The Contractor, as the Employer of the workforce, shall be fully responsible for the establishment and maintenance at his own cost, of satisfactory labour relations on site and the resolution of all grievances of temporary workers as may occur. Refer to Disciplinary Procedures for Small Business drafted/published by Department of Labour.

C3.4.3.4.9.2 The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Civil Engineering Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

C3.4.3.4.9.3 In the event of any temporary worker engaged by the Contractor in terms of the Contract, being aggrieved with regard to his Terms of Employment, working conditions and training, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor in terms of Subclause C3.4.3.4.9.2 above, by one member of the temporary workforce and one member of the Project Committee, which persons shall be nominated by the worker.

C3.4.3.4.9.4 In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures in accordance with Sub clauses C3.4.3.4.9.2 and C3.4.3.4.9.3, then either the Contractor or the worker concerned may require that the matter be referred to the Project Committee for further consideration, with a view to facilitate the resolution thereof.

C3.4.3.4.10 THE SUBCONTRACTORS' WORKFORCES

C3.4.3.4.10.1 The provisions of this Part C shall apply *mutatis mutandis* to the workforces employed by all subcontractors engaged by the Contractor and the Contractor shall be fully responsible for ensuring, at his own cost, that the terms of every subcontract agreement entered into are such as to facilitate the application of these provisions in respect of the workforces of all subcontractors.

C3.4.3.4.10.2 The Contractor shall at his own cost and to the extent necessary, assist and monitor all subcontractors in the application of the provisions of this Specification, and shall, in terms of the Conditions of Contract, remain fully liable in respect of the acts, omissions and neglects of all subcontractors, in respect of the application of the provisions of this Specification.

C3.4.3.4.11 MEASUREMENT AND PAYMENT

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and creation of temporary employment opportunities and all the Contractor's costs associated with compliance with the provisions of this part of the Project Specifications shall, except to the extent provided for in Part C3.4.3.3. as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Schedule of Quantities.

C3.5 MANAGEMENT

C3.5.1 MANAGEMENT MEETINGS

The following meetings will be required as minimum for the management of the contract.

- (a) Monthly client site meeting (using standard agenda for management control).
- (b) Technical meetings as required for each phase of the work.
- (c) Monthly safety meetings in terms of the OHS requirements.
- (d) Weekly progress meetings

C3.5.2 QUALITY CONTROL

Contractor to supply details of quality plan and procedures. These shall include:

- Accommodation of traffic.
- Inspection and test plans.
- Approval process.
- Hold-points.
- Milestones.



GREATER GIYANI MUNICIPALITY

**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBI TAXI RANK**

PART C4: SITE INFORMATION

C4.1	SITE INFORMATION.....	C.179
C4.2	LOCALITY PLAN.....	C.168



GREATER GIYANI MUNICIPALITY

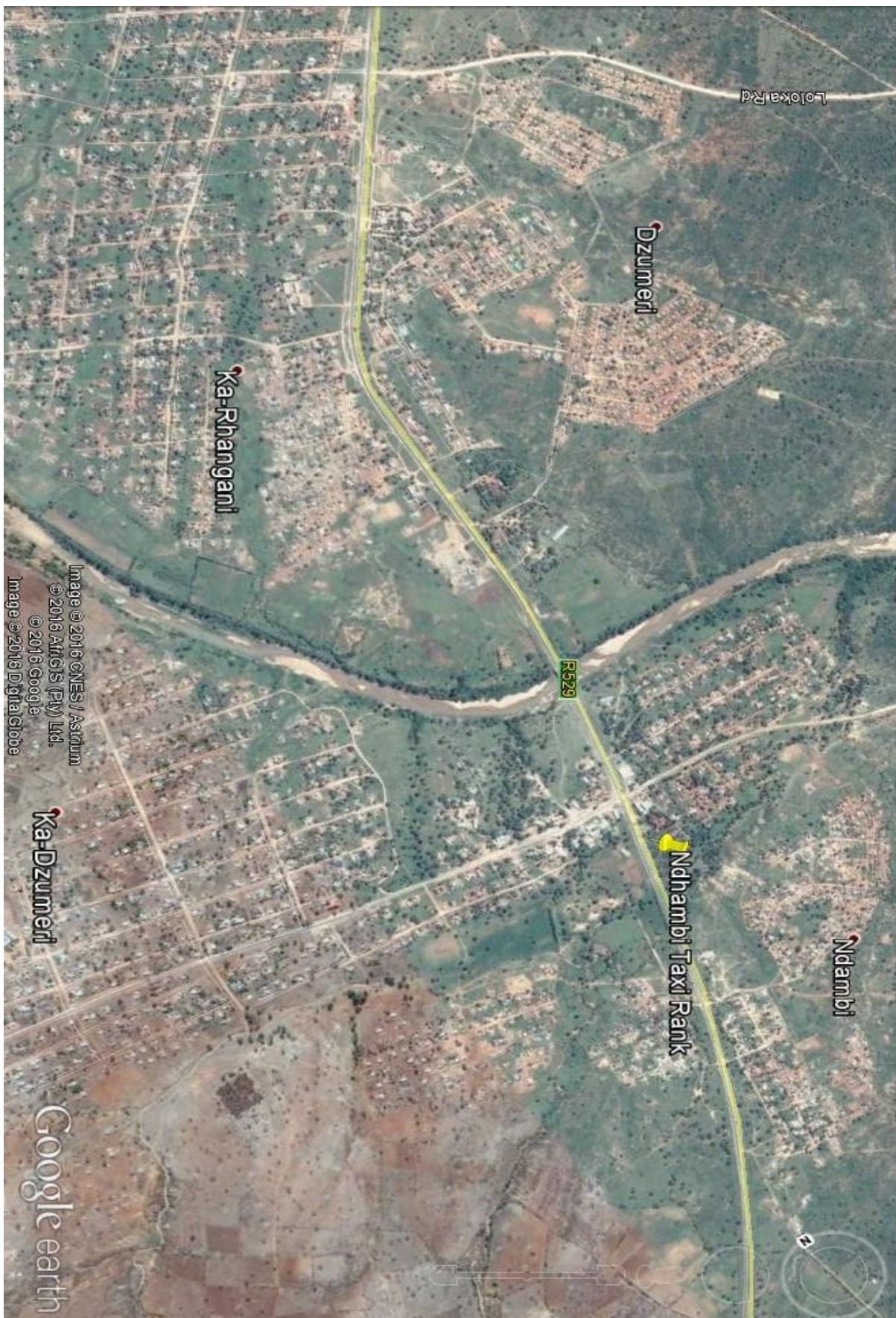
**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBI TAXI RANK**

C4.1 SITE INFORMATION

- C4.1.1 Materials investigations will be supplied to the successful Contractor (or on request of Tenderer).
- C4.1.2 Working drawings and other information will also be made available to the successful bidder.

C4.2 LOCALITY PLAN

Locality plan





GREATER GIYANI MUNICIPALITY

**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBHI TAXI RANK**

PART C5: ANNEXURES

C5.1	PROFORMA DOCUMENTS	C.182
C5.2	MINISTERIAL DETERMINATION NO.3 : EXPANDED PUBLIC WORKS PROGRAMMES	C.194
C5.3	REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME	C.215
C5.4	CONTRACT DRAWINGS	C.217



GREATER GIYANI MUNICIPALITY

CONTRACT No. G/G/M/6104/009/2021 FOR NDHAMBI TAXI RANK

C5.1 PROFORMA DOCUMENTS

The following is a list of Proforma documents and examples that are required to be completed by the successful tenderer.

C5.1.1	RETENTION MONEY GUARANTEE PROFORMA.....	C.183
C5.1.2	EXAMPLE OF ABE DECLARATION AFFIDAVIT.....	C.185
C5.1.3	FORM RDP 9(E) : CONTRACT EMPLOYMENT REPORT.....	C.188
C5.1.4	FORM RDP 10(E) : EMPLOYMENT OF SUPERVISORY STAFF REPORT	C.189
C5.1.5	FORM RDP 11(E) : GENERIC TRAINING REPORT	C.190
C5.1.6	FORM RDP 12(E) : ENTREPRENEURIAL TRAINING REPORT	C.191
C5.1.7	FORM RDP 13(E) : ENGINEERING TRAINING REPORT.....	C.192
C5.1.8	FORM RDP 14(E) : COMMUNITY LIAISON MEETING REPORT.....	C.193

C5.1.1 RETENTION MONEY GUARANTEE PROFORMA

EXAMPLE

Greater Giyani Municipality
Private Bag X 9559
Giyani
0826

FOR INFORMATION ONLY:
This Guarantee is not to be completed and signed by the Guarantor.
A separate form will be issued to the successful Tenderer

Notes to Tenderer

1. **This pro forma is for information only. The successful tenderer’s guarantor will need to reproduce it without amendment, omission or addition for completion and lodgement with the Employer.**
2. **The tenderer’s guarantee will have to be on letterheads indicating the contact details of the guarantor, shareholders/board of directors, guarantee number and the company registration number.**

CONTRACT NO.: G/G/M/015/037/2015

FOR

NDHAMBI TAXI RANK

The guarantee is issued on behalf of
Registration No
(hereinafter referred to as “the Contractor”) in connection with the above mentioned contract (hereinafter referred to as “the Contract”).

Whereas you have agreed that the Contractor may provide a guarantee in lieu of the retention monies provided for under the Contract.

Now therefore we, the undersigned, being duly authorised to represent the
.....
(full name of guarantor) registration number

undertake to pay you such amounts as you may from time to time demand from us, immediately upon receipt of a written demand from you.

1. Each demand shall be in writing and delivered to us at or such other address as we shall in writing notify to you.
2. Our liability to make the payments herein referred to shall be unconditional and not be affected or diminished by any disputes, claims or counterclaims between you and the Contractor.
3. Our aggregate liability under this guarantee is limited to (R.....) and is restricted to payment of monies only.
4. This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by you, becomes payable to the Contractor.
5. This guarantee is neither negotiable nor transferable and must be returned to us

against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 4 (above), whichever is the earlier.

Signed atfor and on behalf of
on this the day of in the year

GUARANTOR:

AS WITNESS:

1. 2.

NAME(Print): NAME(Print):

ADDRESS ADDRESS

.....
.....

C5.1.2 EXAMPLE OF ABE DECLARATION AFFIDAVIT

(facsimiles will be provided by the Employer to be completed by ABEs)

- 1. Name of firm :
- Postal address :
- Telephone no. :Fax no
- Contact person :
- VAT registration no. :

2. Type of firm (tick as appropriate)

- Partnership.....
- One person business/sole trader.....
- Close corporation: registration no.....
- Date of registration.....
- Company: registration no.....
- Pty Ltd: registration no.....

3. Principal Business Activities :

4. Service/work to be performed on this contract:

5. Participation in this contract

- as a Sub-contractor Yes/No
- in a Joint Venture Yes/No
- with main contractor Yes/No
- with a sub-contractor Yes/No

6. List all partners, proprietors and shareholders:

Name	ID. No.	Citizen of RSA Yes/No	PDI status Yes/No	%owned

7. List the last four contracts/assignments completed by your firm. If required, a separate sheet may be used and attached to this page. Reference may be called from the Employers of the projects listed.

PROJECT AND WORK PERFORMED	EMPLOYER (NAME, ADDRESS, TEL, FAX)	VALUE OF RANDS

Notes to tenderer:

Under column 1 state the assignment or contract (eg. Contract XYZ0123): Construction of rural roads) and follow this with the work carried out (eg. construction of pipe culverts).

Under column 2, if it was a sub-contract give the required details of the employer for the main contract and also of the Contractor who employed you.

Under column 3 give the value of the main contract (if any and if known) and also the value of the work carried out by you.

8. Declaration

I,, being duly authorised to sign on behalf of the firm, affirm that the PDI equity in this business is as stated above and that the information furnished is true and correct.

Signature

Name (print)

Date

Signed on behalf of (print name)

Address

.....

Telephone no.

Commissioner of Oath

Date

Note: In the case of a Company a certificate of authority for signatory must be provided.

C5.1.4 FORM RDP 10(E) : EMPLOYMENT OF SUPERVISORY STAFF REPORT

CONTRACT NO : G/G/M/015/037/2015 : NDHAMBI TAXI RANK

REPORT ON THE EMPLOYMENT OF SUPERVISORY STAFF ON THE ABOVE CONTRACT FOR THE MONTH OF _____ 2012				
POSITION HELD	NAME	PDI	NON-PDI	TOTAL
Site Agent				
Senior Materials Technician				
Senior Surveyor				
Earthworks Surveyor				
Compaction Supervisor				
Surfacing Supervisor				
Structures Supervisor				
Others: - List				
TOTALS				

EXAMPLE

C5.1.5 FORM RDP 11(E) : GENERIC TRAINING REPORT

CONTRACT NO : G/G/M/015/037/2015 : NDHAMBHI TAXI RANK

REPORT ON GENERIC TRAINING ON THE ABOVE CONTRACT FOR THE MONTH OF <u> </u> 2012										
DATES OF TRAINING COURSES		EMPLOYER OF TRAINEE		NAME OF TRAINING INSTITUTE OR IF IN-HOUSE WRITE IH	ATTENDANCES				TOTAL COST OF TRAINING PER TYPE OF TRAINING	
START	FINISH	NAME	VENDOR NO.		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
					TOTAL					
					TOTAL ALL TRAINEES					

EXAMPLE

C5.1.6 FORM RDP 12(E) : ENTREPRENEURIAL TRAINING REPORT

CONTRACT NO : G/G/M/015/037/2015 : NDHAMBHI TAXI RANK

REPORT ON ENTERPRENEURIAL TRAINING ON THE ABOVE CONTRACT FOR THE MONTH OF _____ 2012										
DATES OF TRAINING COURSES		EMPLOYER OF TRAINEE		NAME OF TRAINING INSTITUTE OR IF IN-HOUSE WRITE IH	ATTENDANCES				TOTAL COST OF TRAINING PER TYPE OF TRAINING	
START	FINISH	NAME	VENDOR NO.		NUMBER ATTENDING		CERTIFICATES AWARDED		MALE	FEMALE
					MALE	FEMALE	MALE	FEMALE		

EXAMPLE

C5.1.7 FORM RDP 13(E) : ENGINEERING TRAINING REPORT

CONTRACT NO : G/G/M/015/037/2015 : NDHAMBHI TAXI RANK

REPORT ON ENGINEERING TRAINING ON THE ABOVE CONTRACT FOR THE MONTH OF _____ 2012										
DATES OF TRAINING COURSES		EMPLOYER OF TRAINEE		NAME OF TRAINING INSTITUTE OR IF IN-HOUSE WRITE – IH	ATTENDANCES				TOTAL COST OF TRAINING PER TYPE OF TRAINING	
START	FINISH	NAME	VENDOR NO.		NUMBER ATTENDING		CERTIFICATES AWARDED		MALE	FEMALE
					MALE	FEMALE	MALE	FEMALE		
									TOTAL	
									TOTAL ALL TRAINEES	

EXAMPLE



GREATER GIYANI MUNICIPALITY

**CONTRACT No. G/G/M/6104/009/2021
FOR
NDHAMBI TAXI RANK**

**C5.2 MINISTERIAL DETERMINATION NO.3 : EXPANDED PUBLIC WORKS
PROGRAMMES**

TABLE OF CONTENTS

FOREWORD

TERMINOLOGY

ABBREVIATIONS

1 INTRODUCTION

2 RESPONSIBILITIES OF THE PUBLIC BODY

2.1 Selection of projects

2.2 Setting of rate of pay

2.3 Appointment of consulting engineers and contractors

3 Contract Documentation for Consulting Engineers and Contractors for Labour-intensive construction projects

3.1 General

3.2 Contract Documentation for Consulting Engineering Services

3.3 Contract Documentation for the Works

3.3.1 Conditions of tender

3.3.2 Conditions of contract

3.3.3 Scope of work

3.3.4 Schedules of quantities

4 DESIGN CHECKLIST

Foreword

The Expanded Public Works Programme (EPWP) is one of government's short-to-medium term programmes aimed at alleviating and reducing unemployment. The EPWP will achieve this aim through the provision of work opportunities coupled with training. It is a national programme covering all spheres of government and state-owned enterprises (SOE's). President Mbeki formally announced the programme in his State of the Nation Address in February 2003.

Government's medium-to-long term programmes to address unemployment include increasing economic growth, improving skills levels through education and training, and improving the enabling environment for industry to flourish. The EPWP will continue to exist until these medium-to-long term programmes are successful in reducing unemployment.

The programme involves reorientating line function budgets so that government expenditure results in more work opportunities, particularly for unskilled labour. EPWP projects will therefore be funded through the normal budgetary process, through the budgets of line-function departments, provinces and municipalities.

Opportunities for implementing the EPWP have been identified in the infrastructure, environmental, social and economic sectors. In the infrastructure sector the emphasis is on creating additional work opportunities through the introduction of labour-intensive construction methods. Labour-intensive construction methods involve the use of an appropriate mix of labour and machines, with a preference for labour where technically and economically feasible, without compromising the quality of the product.

All public bodies involved in infrastructure provision are expected to attempt to contribute to the programme. As part of this initiative, the national government has through the 2004 Division of Revenue Act placed some additional conditionalities on the Provincial Infrastructure Grant (PIG) and the Municipal Infrastructure Grant (MIG). These additional conditionalities will require provinces and municipalities to use the "Guidelines for the implementation of labour-intensive infrastructure projects under the EPWP" agreed upon between SALGA, National Treasury and the Department of Public Works for identification, design and construction of projects financed through the MIG or PIG. This document contains those guidelines.

International and local experience has shown that, with well-trained supervisory staff and an appropriate employment framework, labour-intensive methods can be used successfully for infrastructure projects involving low-volume roads and sidewalks, stormwater drains, and trenches. On the basis of this experience, and in the context of high levels of unemployment, the national government has decided to require that these infrastructure projects must be carried out labour-intensively.

These guidelines aim to provide provinces and municipalities with the necessary tools to successfully tender these projects as labour-intensive projects. These guidelines have been designed with the aim of minimising the additional work required from provincial and municipal officials. The National Department of Public Works is working with the Construction Education and Training Authority (CETA) to develop the capacity of the construction industry to design and manage labour-intensive infrastructure projects successfully.

The guidelines contain sections which should be copied into the relevant parts of the contract documentation for consulting engineers and contractors. These sections introduce a requirement that certain construction activities must be carried out by hand, under certain conditions. These requirements were formulated on the basis of a thorough review of international and local experience of labour-intensive construction, in order to identify the activities for which it is economically and technically feasible to use labour-intensive methods. The guidelines therefore conform to the Public Finance Management Act requirement for assessing the cost-effectiveness of capital projects. The normal tender evaluation processes are followed under these guidelines, and it is not necessary to apply any special additional preferences for employment creation.

The guidelines include the contents of the Code of Good Practice for Special Public Works Programmes, which has been gazetted by the Department of Labour, and which provides for special conditions of employment for these EPWP projects. In terms of the Code of Good Practice, the workers on these projects are entitled to formal training, which will be provided by training providers appointed (and funded) by the Department of Labour. For projects of up to six months in duration, this training will cover life-skills and information about other education, training, and employment opportunities.

In order to develop the capacity of the construction industry to manage labour-intensive projects, these guidelines also include an eligibility requirement for the appointment of contractors and consulting engineers, i.e. that their key staff involved in the project must undergo special NQF-accredited training programmes in labour-intensive construction.

As an additional means of addressing the capacity in the labour-intensive construction sector, DPW together with the CETA has established a labour intensive contractor learnership programme. The aim of this learnership programme is to produce small contractors qualified to execute work in accordance with these guidelines. The CETA is paying for the classroom training of these contractors.

As part of this learnership programme, learner contractors need to execute projects to gain practical experience. Partnering provinces and municipalities may allocate projects identified and designed using these guidelines to the learner contractors on a negotiated price basis.

An electronic version of these guidelines and electronic copies of the following documents can be obtained on the enclosed CD ROM or downloaded from www.publicworks.gov.za.

- Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes
- Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002
- Government Gazette (DORA 2004 with MIG and PIG Conditions)
- Documents relating on the Labour Intensive Contractor Learnership Programme

Terminology

By hand: refers to the use of tools which are manually operated and powered

Form of contract: refers to a document (conditions of contract) published by industry which establishes the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the contract.

Labour-intensive: refers to methods of construction involving a mix of machines and labour, where labour, utilising hand tools and light plant and equipment, is preferred to the use of heavy machines, where technically and economically feasible.

(Note: The normal emphasis on the cost-effectiveness and quality of the asset must be retained.)

Public body: refers to a department, trading entity, constitutional institution, municipality, public entity or municipal entity

Scope of work: refers to a specification and description of the services or construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract is to be performed

Abbreviations

CETA: Construction Education and Training Authority

CIDB: Construction Industry Development Board

ECSA: Engineering Council of South Africa

EPWP: Expanded Public Works Programme

FIDIC: French acronym for the International Federation of Consulting Engineers

NEC: New Engineering Contract

NQF: National Qualifications Framework

SANS: South African National Standard

SPWP: Special Public Works Programme

1 INTRODUCTION

Labour-intensive infrastructure projects under the EPWP include:

- using labour-intensive construction methods to provide employment opportunities to local unemployed people;
- providing training or skills development to those locally employed workers;
- building cost-effective and quality assets.

This document is a guiding framework for the implementation of labour-intensive projects under the Expanded Public Works Programme. It provides the means by which labour-intensive works can be implemented under the most commonly encountered delivery model, namely design by employer (i.e. the model in which the contractor undertakes construction on the basis of full designs issued by the employer.) It also assumes that the public body will appoint a consultant to design the works and to administer the contract. Adjustments to the text of this document will be necessary to accommodate other delivery models. Where no consultants are appointed, the staff of the public body needs to perform the activities assigned to consultants in this document.

The document in addition provides guidance on the:

- identification of suitable projects;
- appropriate design for labour-intensive construction;
- the specification of labour-intensive works; and
- the compilation of contract documentation for labour-intensive projects.

Specific direction is given regarding contract clauses which must be included to amend or augment standard documentation, in order to implement labour-intensive projects.

These guidelines do not have to be applied to projects for which planning had already commenced before the beginning of the 2004-2005 financial year, as it might require too many changes to existing designs or tender documentation. However these guidelines must be applied to all relevant projects for which the design process commences after the beginning of the 2004-2005 financial year.

Appendix A provides sources of additional information.

The employment of locally employed temporary workers on all EPWP labour-intensive infrastructure projects must be in accordance with the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes issued in terms of the Basic Conditions of Employment Act, 1997 (Act N° 75 of 1997) and promulgated in Government Gazettes Notice N° P64 of 25 January 2002. The requirements of this Code have been included in this Guidelines document. However, reference should be made to the full text of the Code of Good Practice and the related Ministerial Determination.

2. RESPONSIBILITIES OF THE PUBLIC BODY

2.1 Selection of projects

The public body must implement the following types of civil infrastructure projects labour-intensively, in accordance with these guidelines:

- low-volume roads (typically less than 500 vehicles per day) and sidewalks;
- stormwater drainage; and
- trenching;

where such projects contain a significant amount of the construction activities for which the use of labour is specified in the Generic Labour Intensive Specification in section 3.3.3 below, i.e. excavation, loading, short-distance hauling, offloading, spreading, grassing, and stone-pitching.

There is also potential for additional employment creation in other types of infrastructure and building (see Annexure B). Public bodies are also encouraged to create additional work opportunities in these projects. These guidelines may be used for other labour intensive projects other than those types of civil infrastructure projects specified above, as long as such projects involve a significant substitution of labour for machines.

The public body must be satisfied that sufficient local labour (willing to work) is available for the project, before proceeding with the project as a labour-intensive project.

The public body is encouraged to send its relevant managers on the applicable skills programmes in labour-intensive construction (See Appendix D).

As mentioned in section 1 of these guidelines above, these guidelines do not have to be applied to projects for which planning had already commenced before the beginning of the 2004-2005 financial year, to avoid reworking existing designs or tender documentation.

2.2 Setting of rate of pay

In accordance with the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes (clause 10.4), the public body must set a rate of pay (task-rate) for workers to be employed on the labour-intensive projects.

Clause 10.4 requires that the following should be considered when setting rates of pay for workers:

- 10.4.1 *The rate set should take into account wages paid for comparable unskilled work in the local area per sector, if necessary.*
- 10.4.2 *The rate should be an appropriate wage to offer an incentive for work, to reward effort provided and to ensure a reasonable quality of work. It should not be more than the average local rate to ensure people are not recruited away from other employment and jobs with longer-term prospects.*
- 10.4.3 *Men, women, disabled persons and the aged must receive the same pay for work of equal value.*

2.3 Appointment of consulting engineers and contractors

The public body must ensure that:

- i) the design of the labour-intensive works by consultants is overseen by persons in their employ who have completed the necessary skills training (see Appendix D);
- ii) works contracts are administered by persons in the employ of consultants who have completed the necessary skills training (see Appendix D); and

- ii) works contracts are awarded to contractors who have in their employ managers who have completed the necessary skills training (see Appendix D).

As a concession up to 30 June 2007, persons identified in Appendix D who have not completed the requisite skills training need only to be registered on the relevant skills programmes.

3 CONTRACT DOCUMENTATION FOR CONSULTING ENGINEERS AND CONTRACTORS FOR LABOUR-INTENSIVE CONSTRUCTION PROJECTS

3.1 General

All standard forms of contract applicable in South Africa (see Appendix C) may be used for labour-intensive projects. It is not necessary to create special new forms of contract or to amend existing forms to implement labour based works.

Requirements for labour-intensive works need, however, to be established in the scope of work / specifications / schedules / works information / scope of services / scope associated with a contract for both consultants and contractors.

Each standard form of contract uses different terms to describe the parties to the contract and to establish requirements for the works (see Appendix C). These guidelines use the terms employer and contractor for the parties engaged in construction works, client and consultant for the parties engaged in professional service contracts and scope of work for requirements in both professional service and construction contracts. The terms used in the text in boxes may have to be adjusted to reflect the terms used in the particular standard form of contract.

3.2 Contract Documentation for Consulting Engineering Services

The scope of work must establish the manner in which the consultant is to provide the consulting engineering services associated with labour-intensive works.

The following must be included in the scope of work in the contract of employment with a Consulting Engineer:

General

The services shall be provided in accordance with the provisions of the Guideline Scope of Service and Tariff of Fees for Persons Registered in terms of the Engineering Professions Act published by the Engineering Council of South Africa in terms of Board Notice No 18 of 2003 in Government Gazette No 24938, 28 February 2003).

Labour-intensive works

1. The Consultant shall not perform any significant portion of a project involving labour-intensive works under the direction of a staff member who has not completed, or, for the period 1 April 2004 to 30 July 2005, is not registered for training towards, the NQF level 7 unit standard "Develop and Promote Labour Intensive Construction Strategies" (Details of this skills programmes may be obtained from the CETA ETQA manager (e-mail:gerard@ceta.co.za, tel: 011-265 5900).
2. The staff member of the consultant who is responsible for the administration of any works contract involving labour-intensive works must have completed or, for the period 1 April 2004 to 30 July 2005, be registered for training towards, the NQF level 5 unit standard "Manage Labour-Intensive Construction Projects" (Details of this skills programmes may be obtained from the CETA ETQA manager (e-mail:gerard@ceta.co.za , tel: 011-265 5900).

3. The Consultant must provide the Client with satisfactory evidence that staff members satisfy the requirements of 1 and 2.
4. The Consultant must design and implement the construction works in accordance with the Guidelines for the Implementation of the Labour Intensive Projects under the Expanded Public Works Programme (the Guidelines) published by the national Department of Public Works.
5. The Consultant shall for monitoring purposes, transmit to the Client data obtained from the contractor on the number of people employed, broken down into the amounts spent on women, youth, and persons with disability on the project, the number of person days of employment created and the number of days of formal training provided.
6. All services relating to the implementation of the works which are to be provided in terms of the Guidelines are normal services in terms of ECSA's Board Notice No 18 of 2003. Any changes in the design of the works to incorporate labour intensive works shall not constitute a change in scope or an additional service.
7. The Consultant shall certify that the works have been completed in accordance with the requirements of the Guidelines and the Contract:
 - a) whenever a payment certificate is presented to the Client for payment; and
 - b) immediately after the issuing of a practical completion certificate that signifies that the whole of the works have reached a state of readiness for occupation or use for the purposes intended although some minor work may be outstanding.

3.3 Contract Documentation for the Works

3.3.1 Conditions of tender

Public bodies must only award contracts to contractors who have suitably qualified senior and middle supervisory staff to supervise the labour-intensive works. Tenderers must be made aware of this requirement in tender documents. Those responsible for evaluating tenders must confirm that the contractor has such staff available for the contract during the tender evaluation process.

The following must be included in the tender data / conditions of tender in the contract with the Employer:

Eligibility requirements

A contract will only be entered into with a tenderer who has in his employ management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff.

Information to be submitted with the tender

The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.

3.3.2 Conditions of contract

As mentioned in 3.1, any standard form of contract for construction works may be used for labour-intensive projects (see Appendix C). These forms of contract must not, however, be amended or varied to alter the obligations, liabilities or rights of the employer, representative of the employer (engineer / principal agent / agent / project manager) or contractor where a project manager, materials manager, trainer, mentor or any other person is appointed to support the Contractor.

The following must be included in the contract data / special conditions of contract in the contract with the Employer:

Payment for the labour-intensive component of the works

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

Applicable labour laws

The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

1 Introduction

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

1.2 In this document –

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

2 Terms of Work

2.1 Workers on a SPWP are employed on a temporary basis.

2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a SPWP.

2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 Normal Hours of Work

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

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

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

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

4 Meal Breaks

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

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

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

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

5 Special Conditions for Security Guards

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

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

6 Daily Rest Period

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

7 Weekly Rest Period

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

8 Work on Sundays and Public Holidays

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday must be paid –

- (a) the worker's daily task rate, if the worker works for less than four hours;
- (b) double the worker's daily task rate, if the worker works for more than four hours.

8.4 A time-rated worker who works on a public holiday must be paid –

- (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
- (b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9 Sick Leave

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

9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

- 9.4 Accumulated sick-leave may not be transferred from one contract to another contract.
- 9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- 9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- 9.7 An employer must pay a worker sick pay on the worker's usual payday.
- 9.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
- (a) absent from work for more than two consecutive days; or
 - (b) absent from work on more than two occasions in any eight-week period.
- 9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- 9.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

10 Maternity Leave

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

11 Family responsibility leave

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

- (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12 Statement of Conditions

12.1 An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the SPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the SPWP.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) in the case of a task-rated worker, the number of tasks completed by the worker;
- (c) in the case of a time-rated worker, the time worked by the worker;
- (d) payments made to each worker.

13.2 The employer must keep this record for a period of at least three years after the completion of the SPWP.

14 Payment

14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

14.2 A task-rated worker will only be paid for tasks that have been completed.

14.3 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

14.4 A time-rated worker will be paid at the end of each month.

14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

14.6 Payment in cash or by cheque must take place –

- (a) at the workplace or at a place agreed to by the worker;
- (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
- (c) in a sealed envelope which becomes the property of the worker.

14.7 An employer must give a worker the following information in writing –

- (a) the period for which payment is made;
- (b) the numbers of tasks completed or hours worked;
- (c) the worker's earnings;

(d) any money deducted from the payment;

(e) the actual amount paid to the worker.

14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it 14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

15 Deductions

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

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

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

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

(a) repay any payment except an overpayment previously made by the employer by mistake;

(b) state that the worker received a greater amount of money than the employer actually paid to the worker; or

(c) pay the employer or any other person for having been employed.

16 Health and Safety

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

16.2 A worker must –

(a) work in a way that does not endanger his/her health and safety or that of any other person;

(b) obey any health and safety instruction;

(c) obey all health and safety rules of the SPWP;

(d) use any personal protective equipment or clothing issued by the employer;

(e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

17 Compensation for Injuries and Diseases

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

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

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

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

18 Termination

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

18.2 A worker will not receive severance pay on termination.

18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

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

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

19 Certificate of Service

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

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

3.3.3 Scope of work

Standard specifications (those normally used by the public bodies) are to be utilised. It is necessary, however, to include certain requirements in the scope of work to implement labour-intensive works in accordance with the provisions of these Guidelines.

The following wording, as appropriate, must be included in the scope of work in the contract with the contractor

DESCRIPTION OF THE WORKS

Employer's objectives

The employer's objectives are to deliver public infrastructure using labour-intensive methods Labour-intensive works.

Labour-intensive works comprise the activities described in the Labour-Intensive Specification. Such works shall be constructed using local workers who are temporarily employed in terms of this scope of work.

LABOUR-INTENSIVE COMPETENCIES OF SUPERVISORY AND MANAGEMENT STAFF

Established contractors shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2005, are registered for training towards, the skills programme outlined in Table 1.

Emerging contractors shall have personally completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for the NQF level 2 unit standard. All other site supervisory staff in the employ of emerging contractors must have completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff			
Personnel	NQF level	Unit standard titles	Skills programme description
Team leader/ supervisor	2	Apply Labour-Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and any one of these 3 unit standards
		Use Labour-Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	
		Use Labour-Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/supervisor	4	Implement Labour-Intensive Construction Systems and Techniques	This unit standard must be completed, and any one of these 3 unit standards
		Use Labour-Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	
		Use Labour-Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent/Manager (i.e the contractor's most senior representative that is resident on the site)	5	Manage Labour-Intensive Construction Processes	Skills Programme against this single unit standard

Details of these skills programmes may be obtained from the CETA ETQA manager (e-mail:gerard@ceta.co.za , tel: 011-265 5900)

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

1.1 Requirements for the sourcing and engagement of labour.

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

1.1.2 The rate of pay set for the SPWP is R per task or per day.

(Insert value determined by public body in terms of clause 2.2 of these Guidelines)

1.1.3 Tasks established by the contractor must be such that:

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

1.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.5 The Contractor shall,

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

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

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

- a) 60 % women;
- b) 20% youth who are between the ages of 18 and 25; and
- c) 2% on persons with disabilities.

1.2 Specific provisions pertaining to SANS 1914-5

1.2.1 Definitions

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

1.2.3 Contract participation goals

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

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

1.2.4 Terms and conditions for the engagement of targeted labour

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

1.2.5 Variations to SANS 1914-5

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

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

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

1.3 Training of targeted labour

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

1.3.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The contractor must access this training by informing the relevant regional office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The Employer and the Department of Public Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

1.3.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

1.3.4 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.3 above.

1.3.5 Proof of compliance with the requirements of 1.3.2 to 1.3.4 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

GENERIC LABOUR-INTENSIVE SPECIFICATION

(This specification must be incorporated in the Scope of Works without amendment or modification. When SANS 1921-5, *Construction and management requirements for works contracts Part 5: Earthworks activities which are to be performed by hand*, is published, the earthworks portions of this generic specification must be replaced with a reference to SANS 1921-5 and its associated specification data)

Scope

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

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

Precedence

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

Hand excavateable material

Hand excavateable material is material:

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

Note: 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

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

Table 1: Consistency of materials when profiled

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

Trench excavation

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

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

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers a) to 90% Proctor density;

b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or

c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

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

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

Clearing and grubbing

Grass and small bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Loading

All loading shall be done by hand, regardless of the method of haulage.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

Manufactured Elements

Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition, the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper handhold on them.

3.3.4 Schedules of quantities

Labour-intensive works must be highlighted in the schedules / bills of quantities for the payment items relating to labour-intensive works.

The following wording, as appropriate, may be included in the preamble or pricing instructions to the schedules / bills of quantities in the contract with the contractor:

1 Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column filled in against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.

2 Payment for items which are designated to be constructed labour-intensively (either in this

schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

The following payment items should be included in the bill of quantities:

Item	Description	Unit	Quantity	Rate	Amount
	Training allowance paid to targeted labour in terms of formal training	Person days	(insert quantity)	(insert specified day rate)	
	Extra over for the administration of payment of training allowances to targeted labour	Person days	(as above)		
	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (Provisional sum)	Sum	(insert provisional sum)		

4 DESIGN CHECKLIST

Cognisance of the following should be taken in the design of labour-intensive works:

1. Earthworks must be designed taking consideration of the method of construction, namely labour intensive.
2. Vertical and horizontal alignment of the works (roads, trenches, pipelines and stormwater channels) should be such to optimise cut and fill, minimise deep or hard excavation or areas requiring specialist engineering input for example dewatering or specialist ground stabilisation.
3. During the design of gravel roads, suitable construction material should be sourced in close proximity to the site of the Works.
4. Drawings must be produced and presented in a clear, easily understandable way. Where setting out information is provided in the form of coordinates it should be backed up with methods, not relying on sophisticated surveying instruments, such as offsets measurable will the use of a standard tape. Where possible and appropriate drawings should be produced using a background of ortho photos to provide for easily identification of surrounding features.
5. Except in special circumstances, drawings should be produced in a form that is easily readable in A3 format.
6. Where the haul distance is greater than 150m, and less than 5000m, the use of small volume local transport, particularly using animal-drawn vehicles should be considered.
7. Excavation in material which may constitute a safety hazard for workers must be excluded.

8. All pre-manufactured materials which are incorporated into the Works must be sized such that the mass of individual elements does not exceed 320kg.
9. Hazardous material such as lime or harmful chemical stabilising agents must not be included in the Works.
10. Stone masonry and grouted stone pitching should be included wherever suitable material is available to the exclusion of pre-cast or cast in situ concrete stormwater structures.
11. Where compaction of road layer works is required, it must be carried out using conventional compaction equipment (mechanised pedestrian rollers where possible). Compaction of small areas and in trenches may be carried out using hand stampers.
12. Consideration must be given to alternative design of trenches for gravity pipelines to reduce depth of excavation.
13. Where there is an indication of local skills, e.g. bricklaying, structures should be designed to make use of such skills.
14. There are appropriate designs for labour-intensive construction of low-cost surfacing for low-volume roads, such as the Cape Seal and interlocking concrete blocks.



GREATER GIYANI MUNICIPALITY

CONTRACT No. G/G/M/6104/009/2021 FOR NDHAMBHI TAXI RANK

C5.3 REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME

EPWP Special Project Specification

As much as is economically feasible all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the “Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded

Public Works Programme (EPWP)” shall be undertaken using Labour Intensive Construction methods.

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

Requirements for the sourcing and engagement of labour.

- F.1.1. Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
- F.1.2. The rate of pay set for the SPWP is R 95.00 per task or per day.
- F.1.3. Tasks established by the contractor must be such that:
- a) the average worker completes 5 tasks per week in 40 hours or less; and
 - b) the weakest worker completes 5 tasks per week in 55 hours or less.
- F.1.4. The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.
- F.1.5. The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
- a) where the head of the household has less than a primary school education;
 - b) that have less than one full time person earning an income;
 - c) where subsistence agriculture is the source of income.
 - d) those who are not in receipt of any social security pension income
- F.1.6. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
- a) 40 % women;
 - b) 30% youth who are between the ages of 18 and 35; and
 - c) 2% on persons with disabilities.

Specific provisions pertaining to SANS 1914-5

F.3.1. Definitions

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

F.3.2. Contract participation goals

F.3.3. There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

F.3.4. The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

F.3.5. Terms and conditions for the engagement of targeted labour

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

F.3.6. Variations to SANS 1914-5

F.3.7. The definition for net amount shall be amended as follows: Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

F.3.8. The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

Training of targeted labour

F.4.1. The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

F.4.2. The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

F.4.3. A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026

F.4.4. The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.

F.4.5. The contractors shall do nothing to dissuade targeted labour from participating in the above mentioned training programmes.

F.4.6. An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.4 above.

Proof of compliance with the requirements of 1.3.2 to 1.3.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate

