
Part C3: Scope of Work

	Pages
C3.1 Description of the Works	125 - 129
C3.2 Engineering.....	130
C3.3 Procurement	131 - 132
C3.4 Construction	133 - 156
C3.5 Management.....	157 - 176
C3.6 Annexes.....	177 - 201

Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, particular specification or any drawings, the order of precedence, unless otherwise specified, is:

Drawings
Scope of Work (Parts C3.1, C3.4, C3.5 and C3.6)
Particular Specifications
COLTO Standardised Specifications

C3.1 Description of the Works

CONTENTS

- 3.1.1 EMPLOYER'S OBJECTIVES
- 3.1.2 OVERVIEW OF THE WORKS
- 3.1.3 EXTENT OF THE WORKS
- 3.1.4 LOCATION OF THE WORKS
- 3.1.5 QUANTITIES
- 3.1.6. BOUNDARIES OF THE SITE
- 3.1.7. OCCUPATION OF THE SITE
- 3.1.8. CONSTRUCTION TIME PERIOD
- 3.1.9. CONTRACTOR'S CAMP SITE, SERVICES AND SITE FACILITIES
- 3.1.10. SITE FACILITIES REQUIRED
- 3.1.11. FEATURES REQUIRING SPECIAL ATTENTION
- 3.1.12. ACCOMMODATION OF TRAFFIC
- 3.1.13. ENVIRONMENTAL REQUIREMENTS

3.1.1 EMPLOYER'S OBJECTIVES

The description of the project contained in this Part C3.1 is merely an outline of the Contract Works to be carried out by the Contractor under this Contract.

The employer's objective is to maintain existing and provide new road markings in the City of Cape Town municipal area as and when required.

3.1.2.OVERVIEW OF THE WORKS

The Works are for the provision of road marking services as and when required by the City of Cape Town for the duration of the term tender contract, and are to be executed by contractors allocated Works Projects through a secondary selection process out of the panels of contractors.

3.1.3 EXTENT OF THE WORKS

Work items under this term tender contract may include any one or more of the following:

General items

- The repainting of existing roadmarkings.
- The pre-marking and painting of new roadmarkings.
- The provision / installation and removal of standardized and non-standardized road studs.
- The removal of roadmarkings by means of sandblasting, painting, non-permanent markings or any alternative method, subject to approval by the client.
- The installation and removal of non-permanent or non-standardised roadmarkings
- Accommodation of traffic during construction

The Works that are to be carried out will be specified in Works Project contract documents as and when required and as provided for in the Bills of Quantities therein. However, if during the course of construction conditions are found to differ from those anticipated, the Employer's Agent may modify the works.

3.1.4. LOCATION OF THE WORKS

Each Contractor will be required to work within the boundaries of the City of Cape Town municipal area, as shown on the drawings.

Where ambiguity exists as to the exact location of the boundary (i.e. the boundary is shown as being directly on the road), the boundary shall always be either to the north or east of the road in question.

3.1.5. QUANTITIES

The work that is to be carried out under the contract is as provided for in the Bill(s) / Schedule(s) of quantities. However, if during the course of construction conditions are found to differ from those anticipated, the Engineer reserves the right to modify to suit the prevailing conditions and circumstances. Variations, Expansions and Amendments introduced in this manner will be measured and paid for at the rates tendered for appropriate items listed elsewhere in the schedule of quantities or in the absence of such rates, as extra work.

3.1.6. BOUNDARIES OF THE SITE

The site of the works shall consist of the entire road reserve and interchanges, construction camp, any storage area on the site which the Contractor may require in addition to the area required for construction of the roadworks and special works as defined by the limits of construction shown on the drawings, plus such additional length of road that is necessary for the erection of the road signs on the approaches to the works.

3.1.7. OCCUPATION OF THE SITE

Access to the site of the works will be given to the Contractor on the Engineer's instruction to commence executing the Works.

The site of the works is on public roads and walkways which will remain in use during the course of the work. No road may be closed (unless authorized in writing by the Engineer) and traffic shall be accommodated as specified and shown on the drawings.

3.1.8. CONSTRUCTION TIME PERIOD

The time-span period specified for completion by the Engineer, as stated in the Contract Data in terms of Clause 5.1 of the Conditions of Contract, is **time specified by the Employer in Works Project ... months / weeks (... days)** exclusive of all special non-working days and year-end break (builder's holidays). The Contractor shall plan and programme his construction sequence for completion within the time period specified.

3.1.8.1 Construction work programme

The Contractor shall take note of various factors contained in these specifications, which will have a significant influence on the compilation of the construction work programme. Prominent items are those specified in clause B1215 (anticipated days lost due to climatic conditions) of Section 1200 and Section 1500 of the project specifications dealing with limitations regarding construction areas, time allowed for construction activities, temporary installations of road signs and traffic-control facilities and time restrictions regarding construction work. Detailed directives for compiling the programme of work are given in clause B1204 of Section 1200 of the Project Specifications.

3.1.9. CONTRACTOR'S CAMP SITE, SERVICES AND SITE FACILITIES

The Contractor will be permitted to use the area on or near the site for the establishment of a camp site and office accommodation for his construction personnel. The choice of sites for the establishment of camps is subject to the approval of the Engineer.

The Contractor must make adequate provision in his tender for all negotiations and procurement of water for construction site activities and all related costs will be deemed to be included in his tendered rates.

The Contractor shall, however, make his own arrangements concerning the provision of water, electricity and other services for the campsite and office facilities.

No direct payment will be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

3.1.10. SITE FACILITIES REQUIRED

No site facilities comprising an office / conference unit and an ablution unit with service facilities for the Engineer's representative and his supervisory site staff is required.

3.1.11. FEATURES REQUIRING SPECIAL ATTENTION

3.1.11.1 Wayleaves, permissions and permits

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

Further details on wayleaves are specified in Clause 1202 of the Project Specifications.

3.1.11.2 Health and Safety Plan

Prior to commencing work, the Contractor shall submit a Health and Safety Plan, compiled in accordance with the Health and Safety Specifications in C3.4 : Part G of the Works Specifications to the Engineer for approval. The Contractor may not commence construction without the Engineer's approval of the Health and Safety Plan.

3.1.11.3 Standard of Materials, Workmanship, Testing and Performance

The attention of Tenderers is particularly drawn to the high standard of materials, workmanship, testing and performance applicable to his Contract as a whole and he shall convey this requirement to his proposed Sub-Contractors.

The Contractor will carry out control testing of materials and workmanship as required in terms of the specifications. Where necessary, the Engineer may carry out acceptance control testing. The Employer will not pay claims or grant extension of time for delays to the works resulting from the awaiting of test results. Testing as required by the Engineer will be effected as promptly as possible but it is in the Contractors own interest to submit material samples and other components of workmanship for testing in good time to assist in avoiding or minimising delays.

3.1.11.4 Weatherproof Protection for Workers

All staff required to continue working during rain shall be provided with oilskins and rubber knee boots, or other approved protective clothing and footwear.

3.1.11.5 Night Work and Work on Public Holidays

Where the Contractor requires staff to work overtime, he shall make the necessary arrangements with the Engineer and obtain written approval from the Engineer. The Contractor shall bear the cost of his overtime work.

3.1.11.6 Other Contractors

The Contractor's attention is drawn to the fact that there will be other contractors working on the Site of the Works. In accordance with Clause 4.8 of the General Conditions of Contract, the Contractor shall note and make due allowance for reasonable access to and for the adjacent operations of these other contractors on the site of the works.

3.1.11.7 Maintenance

The Contractor shall be responsible for the maintenance of all temporary traffic control facilities provided for the purposes of traffic accommodation through the sites of the various parts of the Works, and for the maintenance of the Works during the Defects Liability Period of 6 months from the date of completion of the Works in accordance with the provisions of the General Conditions of Contract.

3.1,12. ACCOMMODATION OF TRAFFIC

Closure of traffic lane(s) adjacent to the construction work area will only be permitted during specified off-peak periods. The Contractor shall plan his operations to ensure that the closing and opening of lanes conform to the time periods specified below, or as instructed or approved by the Engineer.

- (a) The safety and convenience of the travelling public is to be considered of utmost importance and every effort must be made to ensure that all temporary road signs, cones, flagmen and speed controls are maintained and effective, and that courtesy is extended to the public at all times.
- (b) It is important that the traffic accommodation requirements described in these specifications are adhered to and that all installations meet with the approval of the Traffic Manager of the City of Cape Town. Liaison has been set up with the traffic authorities by the Engineer and the traffic accommodation described below has been approved by them in principle.
- (c) Only one traffic lane per direction may be closed to traffic at a time. Where two lanes are required to be closed on a three-lane multilane directional roadway to create a work area, one lane shall be dropped at a time with a suitable stabilizing area between the two lane drop as shown on the drawings. Closure of a traffic lane or partial lane will only be permitted once the traffic control facilities and temporary traffic diversions / deviations have been approved.

Closure of traffic lanes for work areas will only be permitted during non-peak time periods, which is Monday to Friday inclusive 09:00 to 15:30. All lanes must be open to traffic at the following times:

- AM Peak : Monday to Friday inclusive: 06:00 to 09:00.
- PM Peak : Monday to Friday inclusive: 15:30 to 18:30.

Saturday restrictions and working times will be determined by the Project Manager as indicated in the Volume 7.

Requirements for safety and accommodation of traffic as set out in the Project Specifications shall be strictly enforced.

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

- (d) Wherever practicable, the Contractor shall maintain pedestrian access across the existing roads and at-grade pedestrian crossing(s) on existing roads. The Contractor shall erect temporary pedestrian fencing to re-route pedestrians to cross the existing roads at suitable locations during the rehabilitation / resurfacing operations.
- (e) The travelling public have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.
- (f) Failure to maintain road signs, warning signs or flicker lights, etc, in good condition shall constitute ample reason for the Engineer to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.
- (g) The Contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document, the South African Road Traffic Signs Manual (SARTSM) and the CSRA/CUTA Road Signs Note No. 13, Roadworks.
- (h) The Contractor shall submit proposals in connection with all signs and accommodation of traffic to the Engineer for approval.

3.1.13. ENVIRONMENTAL REQUIREMENTS

In accordance with the provisions of Clause 8.1 of the General Conditions of Contract, the Contractor shall use every reasonable means to ensure that all operations necessary for the execution of the Works shall be carried out in such a manner as not to cause unnecessary noise or pollution, to interfere unnecessarily or improperly with, or encroach upon the use of public services, or access to, use and occupation of public or private roads and footpaths or properties.

Storage of or stockpiling of materials within the road reserve except at the designated camp site will not be permitted without the written consent of the Engineer. Excess material from demolition or excavation shall only be spoiled at sites that have been approved by the Engineer.

The Contractor shall observe all pertinent legislation with regard to safety on the site of the works. In particular the Contractor shall erect sufficient effective screening around his work area to protect pedestrians, vehicles, property and other facilities from damage during the upgrading / cleaning / rehabilitation process, The Contractor shall ensure that the extent of the screening is adequate as he shall be solely responsible for all claims for damage or injury caused by his upgrading / cleaning / rehabilitation work.

The Contractor is required to carry out work adjacent to the residential neighbourhoods and working environment of existing businesses. The Contractor's operations shall be organised in such a manner as to avoid (whenever possible) or minimise disruption to these neighbourhoods and businesses.

CITY OF CAPE TOWN

TRANSPORT: ROADS INFRASTRUCTURE AND MANAGEMENT

CONTRACT NO. 35Q/2021/22

FRAMEWORK AGREEMENT TENDER FOR THE PROVISION OF ROAD MARKING SERVICES IN THE CITY OF CAPE TOWN

C3.2 Engineering

CONTENTS

- 3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX
- 3.2.2 EMPLOYER'S DESIGN
- 3.2.3 DESIGN BRIEF
- 3.2.4 DRAWINGS
- 3.2.5 DESIGN PROCEDURES

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Not Applicable

3.2.2 EMPLOYER'S DESIGN

Not Applicable

3.2.3 DESIGN BRIEF

Not Applicable

3.2.4.1 DRAWINGS

The following drawings are applicable to the contract and are issued with this tender document and will form part of the Contract Documents as **Volume 4**.

The drawings, if any, issued with this tender document are attached in order to give an overview of the term tender project.

Construction drawings will, in terms of the Conditions of Contract, be issued to the Contractor by the Employer's Agent, as appropriate, prior to the date for commencement with Works execution, and from time to time as required.

The Works shall be constructed in accordance with the issued design drawings, if any.

3.2.4.2 DRAWINGS ISSUED WITH THIS DOCUMENT

VOLUME 4 : The South African Development Community, Road Traffic Sign Manual, 3rd Edition, Digitised Version – May 2012 (Volume 1 & 4) and The South African Road Traffic Signs Manual, 3rd Edition, Digitised Version – May 2012 (Volume 2 & 3). This publication is available from the South African National Department of Transport, Private Bag X193, Pretoria 0001, Tel (012) 309 3657,

The reduced drawings attached that form part of the tender documents shall be used for tender purposes only.

C3.3 Procurement

CONTENTS

- 3.3.1 PREFERENTIAL PROCUREMENT
- 3.3.2 SUB-CONTRACTING PROCEDURES

3.3.1 PREFERENTIAL PROCUREMENT

The Works, and Works Projects, shall be executed in accordance with the conditions associated with the granting of preferences detailed in the **Preference Schedule** where preferences are granted in respect of B-BBEE contribution.

The declarations made in the **Preference Schedule** of the framework contract will be used in the evaluation of tender offers as described in clause C.3.11 in Part T1.2 Tender Data. Once appointed to a panel, Contractors will be required, as applicable, to complete the declaration in respect of sub-contractors in the Works Project Acceptance/Refusal Notice for the particular Works Project, in accordance with clauses P.2.1.4 and P.3.4 in Part A1.2 Work Allocation Procedures in the Works Project contract document.

Financial penalties, as described in the **Preference Schedule**, shall be applied in the event that the Contractor is found to have breached and of the conditions contained in the **Preference Schedule** (unless proven to be beyond the control of the Contractor)

Notwithstanding the application of penalties, the Contractor's attention is drawn to other sanctions that may be applied by the Employer (listed in the **Preference Schedule**) with due consideration to the circumstances.

3.3.2 SUB-CONTRACTING PROCEDURES

3.3.2.1 Monitoring the use of sub-contractors

Notwithstanding the restriction on sub-contracting as described on the **Preference Schedule**, it is recognised that sub-contracting is an integral part of construction, which the conditions of contract make provision for.

In order, however, to comply with the requirements of the **Preference Schedule**, the Contractor shall submit to the Employer's Agent, on a monthly basis, a **B-BBEE Sub-Contract Expenditure Report**. The format of this report is provided in Annex 2 attached.

The Contractor shall submit to the Employer's Agent documentary evidence in accordance with the applicable codes of good practise of the B-BBEE status level of every sub-contractor employed by the Contractor. Until such time as documentary evidence as described above has been submitted to the Employer's Agent, a sub-contractor shall be deemed to be a non-compliant contributor. The Contractor shall furthermore, on the written request of the Employer's Agent, provide documentary evidence showing the value of work sub-contracted to any or all of the sub-contractors employed by the Contractor.

3.3.2.2 Procedure for the selection of sub-contractors/suppliers

Where monetary allowances for provisional sums or prime cost items have been provided in the Bills of Quantities in the Works Project contract document, and where the work or items to which the allowances relate are to be executed/supplied by sub-contractors/suppliers, then the following selection process shall be followed in respect of the required sub-contractors/suppliers:

Where the monetary allowance is less than or equal to R300 000, the Contractor shall invite three quotations from suitably qualified sub-contractors/suppliers for the required work or items. The selection of the three sub-contractors/suppliers shall be in consultation with, and to the approval of the Employer's

Agent. The evaluation of the quotations received must include a preference points system as described in C.3.11 of the Tender Data.

Where the monetary allowance is in excess of R300 000, an open competitive tender process shall be followed in respect of the selection of a sub-contractor/supplier for the required work or items. In such circumstances, tender documentation will be prepared by the Employer's Agent in consultation with and to the approval of the Contractor, invitations to tender will be advertised in the media by the Employer's Agent on behalf of the Contractor, and a sub-contractor/supplier will be selected from the responses received, by the Contractor and Employer's Agent in consultation. The evaluation of the offers received must include a preference points system as described in C.3.11 of the Tender Data. The Contractor must satisfy him/herself that the selected sub-contractor/supplier can meet the requirements of the sub-contract /supply agreement and may, on reasonable grounds, elect not to employ a particular sub-contractor/supplier.

In both instances above (less than or equal to R300 000 or in excess of R300 000), the contractual relationship between the Contractor and sub-contractor/supplier shall be as described in Clause 4.4.3 of the General Conditions of Contract.

C3.4 Construction

CONTENTS

- 3.4.1 TRADE NAMES OR PROPRIETARY PRODUCTS
- 3.4.2 APPLICABLE STANDARDISED SPECIFICATIONS
- 3.4.3 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS
- 3.4.4 WAYLEAVES, PERMISSIONS AND PERMITS
- 3.4.5 LOCAL PRODUCTION AND CONTENT
- 3.4.6 EMPLOYMENT OF SECURITY PERSONNEL
- 3.4.7 UNIVERSAL ACCESS

3.4.1. TRADE NAMES OR PROPRIETARY PRODUCTS

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words "or equivalent".

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS 'OR EQUIVALENT'

3.4.2 APPLICABLE STANDARDISED SPECIFICATIONS

<u>CONTENTS</u>	<u>PAGE(S)</u>
<u>PART A: STANDARD SPECIFICATIONS</u>	
STANDARD SPECIFICATIONS	134
<u>PART B: PROJECT SPECIFICATIONS REFERRING TO THE STANDARD SPECIFICATIONS</u>	
PROJECT SPECIFICATIONS REFERRING TO THE STANDARD SPECIFICATIONS	135
SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS	136
SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE	140
SECTION 1500: TRAFFIC ACCOMMODATION	142
SECTION B1800: DAYWORK	145
SECTION 5700: ROADMARKINGS	148 - 154
SECTION 8100: TESTING MATERIALS AND WORKMANSHIP	155

PART A: STANDARD SPECIFICATIONS

The following relevant standardised specifications, as listed below, shall form the Standard Specifications and apply to this contract:

The **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998**, prepared by the Committee of Land Transport Officials, which the tenderer shall obtain / purchase from the South African Institution of Civil Engineers (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za.

This COLTO Standard Specification may also be inspected, by appointment, at the offices of the Employer during normal office hours.

STANDARD SPECIFICATIONS

Where reference is made to the standard specifications in this contract, it shall mean the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998**, prepared by the Committee of Land Transport Officials complete with any corrections and amendments applicable at the time of tendering. Amendments to the standard specifications are bound in the contract documents in Part B: Project Specifications.

3.4.3 PART B: PROJECT SPECIFICATIONS REFERRING TO THE STANDARD SPECIFICATIONS

Amendments to the standard specifications are included in this Part B : Project Specifications.

- (i) The project specifications form an integral part of the contract documents and supplement the standard specifications.
- (ii) In the event of any discrepancy between the project specifications and a part of the standard specifications, the Schedule of Rates, or the drawings, the project specifications shall take precedence.
- (iii) The standard specifications, which form part of this contract, have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

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 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 payment item which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B 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.

Add the following definitions to Section 1100 of the Specification:

“B1156 COMMERCIAL SOURCE

A source for the supply of materials or services chosen by the Contractor and for which he assumes full responsibility for the quality and supply thereof.”

SECTION 1200 : GENERAL REQUIREMENTS AND PROVISIONS

B1204 PROGRAMME OF WORK

Add the following sub-clauses to the end of Clause 1204

(e) Contract Programme

In terms of Clause 5.6.1 of the General Conditions of Contract, within the time period stated in the Contract Data, the Contractor shall prepare and submit to the Employer's Agent a detailed programme of the work for each Work's Project. The programme shall be in the form of a progress chart, bar chart or other time/activity form acceptable to the Employer's Agent.

This programme shall show at least the information given below:

- i) Sequence of work activities on the various road sections
- ii) A description of each of the various work items to be carried out on the separate work sections
- iii) The programmed time for carrying out each item
- iv) Dependencies of each item including constraints (resource or time-related constraints)
- v) Time required for establishment on the various work sites.

When drawing up his programme, the Contractor shall, inter alia, take into consideration and make allowance for:

- (i) Expected weather conditions and their effects.
- (ii) Known physical conditions and artificial obstructions.
- (iii) The accommodation and safeguarding of public traffic.
- (iv) Dealing with, altering and installing services.
- (v) All other actions required in terms of this contract.

The following details shall be submitted together with the programme:

- (i) The number of working hours per day, working days per week, assumed holiday or shut down periods on which the programme is based.
- (ii) The overall labour and major plant resource levels on which the programme is based.

The Contractor shall base his initial / preliminary programme of work submitted with his tender on the Scope of Work as described in the project specification and the schedule of quantities. If an alternative contract period is offered, the Contractor shall submit a separate programme with the alternative tender.

The contract work programme shall be reviewed on a regular basis by the Contractor in accordance with changing circumstances, delays and amendments to the work ordered by the Employer's Agent. The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the original approved programme. The Contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind.

Minor revisions to the approved programme may be introduced from time to time by mutual agreement between the Contractor and the Employer's Agent. Should the Employer's Agent believe that a major revision of the programme is required, the Contractor will be notified in writing and a revised programme shall be submitted within 14 days of receipt of such notification.

It should be noted that it is in the Contractor's best interest to provide a comprehensive programme giving as much information as possible about the times allowed for the various activities as well as resource or other limitations affecting the programme, since the approved programme may be used to evaluate any claims in terms of the General Conditions of Contract for extensions of time.

(f) Limitations

The Contractor shall take into account the following when drawing up his construction programme:

- (1) Working Time

Work, including the erection and removal of traffic control facilities, shall be executed between sunrise and sunset on Monday to Saturday, inclusive. The closure and occupation of existing traffic lanes will only be allowed subject to the written approval of the Employer's Agent. The existing number of lanes for each traffic movement affected by construction shall not be reduced without the written authorization of the Employer's Agent.

(2) Construction limitations

Requirements for safety and accommodation of traffic as set out in the Project Specifications shall be strictly enforced. Traffic shall be accommodated on the existing surfaced carriageway and shoulders. No bypasses or temporary deviations shall be constructed. Accommodation of traffic will generally be carried out by closing off a shoulder and/or one lane of traffic at a time and accommodating the traffic on the other lane(s). Details of lane closures during the various stages of work, are indicated in the Specifications and/or shown on the various traffic accommodation drawings included in Volume 4 : Drawings.

(3) Other contracts

In accordance with Clause 4.8 of the general conditions of contract, the Contractor shall note and make due allowance for reasonable access to and for the adjacent operations of these other contractors on the site of the works. The Contractor will be required to liaise with these contractors / Employer’s Agent to discuss and ensure that their adjacent operational requirements and activities will interface and are catered for in programming of the work.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following at the end of this clause:

“Acceptance control testing required by the Employer shall be conducted by commercial laboratories acceptable to the Employer. “

B1209 PAYMENT

Add the following subclauses :

“(g) Payment certificates

With reference to subclause 49(1) of the General Conditions of Contract, the Employer's certificate will be issued only after receipt by him of a draft certificate prepared by the Contractor at his own expense in the form prescribed by the Employer. The cost of duplicating and delivering copies of the certificate to the Contractor and the Employer shall be borne by the Contractor. The Employer shall in total require two sets of A4-sized paper copies.

(h) Value Added Tax (VAT)

No value added tax shall be included in the Contractor's tendered rates. Payment of value added tax (VAT) shall be made a separate item in the Summary of Schedule(s) of Rates.”

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Delete the entire clause and replace with the following:

“For the purposes of calculating an extension of time due to climatic conditions in terms of clause 42.3.2 as amended of the General Conditions of Contract, the number of days in excess of the number of working days anticipated to be lost due to climatic conditions shown in Table B1215/1 shall be taken into account:

Table B1215/1 Anticipated days lost due to normal climatic conditions

Month	“n” Working Days	Month	“n” Working Days
January	1	July	6
February	1	August	8
March	2	September	6
April	3	October	5
May	4	November	3
June	5	December	2

The Employer will certify a day lost due to climatic conditions only if:

- no work on the critical path according to the latest approved programme for completion of the works could be carried out during that specific working day or if
- only 30% or less of the work force and plant planned for that specific day, could work.

The extension of time as a result of climatic conditions will be calculated monthly as being equal to the absolute value of number of days certified by the Employer as lost due to climatic conditions, less the number of days in Table B1215/1.

The total extension for the contract will be the sum of the monthly extensions. Extension of time for six-day working weeks and parts of a month shall be calculated pro rata.

The Contractor shall submit to the Employer claims for all time lost due to inclement weather within 1 working day of the claim day. A record of inclement weather shall be kept by the Contractor and recorded at site meetings. The onus is on the Contractor to prove these claims.”

B1230 SAFETY

The Contractor shall at all times observe adequate safety precautions on Site to ensure the safety of his own staff as well as that of the public and other persons engaged in or about the Works. In this respect he shall comply with the provisions of the Health and Safety specifications (Part G of the Works Specifications) and observe all laws, ordinances and regulations pertaining to his work.

In terms of Clause 4.5.3 of the General Conditions of Contract, the Contractor shall enter into an agreement (refer to C1.4 of Volume 3) to complete the work required for the construction of the works in accordance with the provisions of all pertinent legislation and in particular with the provisions of the Occupational Health and Safety Act, (Act 85 of 1993) and the regulations promulgated thereunder.

Where adequate safety precautions are not being observed, the Employer may order the Contractor to comply with minimum safety requirements at the latter's expense. Compliance with such an order will not absolve the Contractor from any of his responsibilities and obligations under the Contract.

B1231 MATERIALS

The Contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the Employer with certificates showing that the materials do so comply. Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the Employer's office on the Site free of charge.

Where proprietary products have been specified, similar products may be used subject to the prior written approval of the Employer.

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

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

No materials to be included in the works shall be damaged in any way and, should they be damaged on delivery or by the Contractor during handling, transportation, storage, installation or testing they shall be replaced by the Contractor at his own expense.

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

(a) Ordering of Materials

Immediately upon his Tender being accepted, the Contractor shall order materials which are in short supply or for which the delivery period may be long.

The Contractor shall therefore, before ordering materials of any kind, check with the Employer the quantities required. No liability or responsibility whatsoever shall attach to the Employer for materials

ordered by the Contractor except if they have been ordered in accordance with written confirmation issued by the Employer.

B1232 PARKING OF CONTRACTOR'S EQUIPMENT

The Contractor shall not park any item of mechanical plant or transport on any surfacing and if, in the opinion of the Employer, the road surface has been damaged due to such parking, by leakage of fuels or oils or any other cause, the Contractor shall cut out, neatly rematch and replace such affected areas at his expense to the satisfaction of the Employer.

B1233 CONTAMINATION OF GROUND

The Contractor shall take all precautions to ensure that no soil is contaminated with petrol, oil or any other substance harmful to the growth of vegetation. He shall remove any soil which in the Employer's opinion he had caused to become so contaminated, shall dispose of it as instructed by the Employer and shall replace it with soil to the Employer's approval.

The Contractor's attention is specifically drawn to subclause 32(6) of the General Conditions of Contract. In particular he will be required to remove from the ground and take away from the site all surplus or spilt concrete, cement grout, stone and sand stockpiles, asphalt, bitumen materials and any other materials remaining as directly required for the execution of the works etc.

SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE

B1301 SCOPE

Add the following:

"For the purposes of the contract, the site(s) can be located anywhere within the specified area to which this tender applies (i.e. Cape Town Area within the City of Cape Town municipal area) and work within the scope of this tender can be allocated anywhere within this area."

B1302 GENERAL REQUIREMENTS

(a) Camps, construction plant and testing facilities

Add the following after the first paragraph of subclause 1302(a) of the Specifications:

"No specific land or existing buildings have been made available on site by the Employer for the establishment of the Contractor's camp site.

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

The following new subitems shall be added after subclause 1302(c) of the Specifications:

"(d) Sanitation

The Contractor shall provide suitable sanitary arrangements for his staff at his campsite. If outside latrines are provided, they shall be of a neat construction and shall be provided with doors and locks. They shall be to the satisfaction of the Employer and the Local Authorities.

The Contractor shall provide at each work site at least one portable chemical latrine for use by construction workers. The latrines shall be serviced daily and maintained in good condition.

The Contractor shall be responsible for providing all necessary services to keep the latrines for himself, the Employer and the subContractors and the Site in a clean, neat and hygienic condition, including the cost of refuse removal and disposal from the Site and from all accommodation provided by him.

If the Contractor fails to provide and / or maintain all Site sanitation facilities in a clean and hygienic condition the Employer may order the Contractor to suspend any or all work on the Site until the requirements of the Specifications are met. No payment shall be made for any delays or disruption of the Works caused thereby nor shall extensions of time be granted for such delays.

On completion of the Contract, the Contractor shall remove the sanitation system and reinstate the area to the satisfaction of the Employer. No separate payment will be made for this work and the Contractor shall allow for this in his tendered rates for establishment.

(e) Environmental Protection

Construction will take place within the existing road reserve and every precaution must be taken to protect the established vegetation and roadside facilities. It is therefore essential that the Employer be continually consulted throughout the contract period to ensure that environmental considerations are satisfied.

Failure to show adequate consideration to the environmental aspects of this contract will be sufficient for the Employer to have the Contractor's representative or any other Contractor's employee(s) removed from the site in terms of Clause 24 of the General Conditions of Contract.

The following conditions have been imposed and shall be strictly complied with:

- (a) Personnel and plant shall not enter property beyond the road reserve boundary irrespective of whether the boundaries are fenced off or not.
- (b) The Contractor shall, to the satisfaction of the Employer, take every necessary precaution to prevent the contamination of any watercourses.
- (f) The Contractor shall ensure that waste and surplus food, food packaging plastic and organic waste are not deposited by his employees anywhere on the site except in refuse bins for removal. If his employees are to eat elsewhere on site than in the campsite, the Contractor

shall designate restricted places for eating in his working areas, shall provide adequate refuse containers in all these places and shall remove the refuse and clean up any remaining food containers immediately after mealtimes.

(f) General obligations

For the purposes of this tender, payment item 13.01 (clause 1303) shall be subdivided into the following work types:

- 13.01 (1) Application of retro-reflective road marking paint (Machine Application: type 1)
- 13.01 (2) Application of retro-reflective roadmarking paint (Hand Application: type 2)
- 13.01 (3) Removal of road studs
- 13.01 (4) Installation road studs
- 13.01 (5) Removal of existing road marking
- 13.01 (6) Removal of non-permanent road marking
- 13.01 (7) Installation of non-permanent road marking

B1303 PAYMENT

B13.01 The Contractor's general obligations

Amend pay item 13.01(c) as follows:

Item	Unit
(c) Time-related obligations	day

Replace "rate per month" with "rate per day" in all instances.

Remove sixth paragraph (i.e. "Should the final value of the work")

Add the following pay sub-items:

The unit of measurement for sub-item 13.01(c) shall be the working day

Item	Unit
(d) Extra over for working on special non-working days	day
(e) Extra over for night work	day

Add the following:

The unit of measurement for sub-item 13.01(c) shall be the working day (measured to the nearest half a day). This unit is to be inclusive of any work conducted outside of normal working hours for any employees. The tendered rates shall include full compensation for all additional costs and other incidentals incurred by the Contractor for having to perform work on a normal working day.

Item	Unit
B 13.01 (d) Extra over for working on special non-working days	day

The unit of measurement shall be working day, which shall be considered to be between 09:00 and 16:00 and parts of a working day shall be calculated pro rata.

The tendered rate per working day shall be paid extra over the applicable time-related pay item(s) and shall include full compensation for additional costs associated with working on Sundays, other special non-working days on the written instruction of the Engineer.

Item	Unit
B 13.01 (e) Extra over for working at night	day

The unit of measurement shall be the working day, which is effectively during the night and shall be considered to be 10 hours between sunset and sunrise. Parts of a working night shall be calculated pro rata. Measurement shall be determined in working hours expended on night work (at the written instruction of the Employer's Agent) measured to the nearest half hour.

The tendered rates shall include full compensation for all additional costs and other incidentals (including the provision of additional traffic accommodation and lighting of the work area if deemed necessary) incurred by the Contractor for having to perform work at night instead of normal working hours at the written instruction of the Employer's Agent.

The tendered rates shall apply to all items of work, irrespective of the nature thereof, and shall be paid over and above the normal rates applicable to the work being done.

No payment shall be made for any additional night work unless a written instruction to perform such night work was issued by the Employer's Agent"

Item	Unit
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B 13.02	Contractors Security and Insurance Obligations	
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B13.02.01	Security (Provision of Performance Guarantee)	PC Sum
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The unit of measurement shall be for the entire contract period and payment thereof will be made after commencement of the contract.

The tendered rate shall include for all costs involved to comply with the requirements as stipulated.

SECTION 1500: ACCOMMODATION OF TRAFFIC

B1502 GENERAL REQUIREMENTS

(a) Safety

The following shall be added to Clause 1502(a) of the Specifications:

All construction workers shall wear high visibility safety clothing when working alongside public traffic. The safety jackets shall be of an approved Level 2 type, bright/fluorescent orange, red-orange or yellow in colour with retro-reflective strips as indicated in Chapter 13 of Volume 2 of the South African Road Traffic Signs Manual (SARTSM). When work is carried out between the hours of sunset and sunrise, the Level 2 safety jackets shall be replaced by level 3 jackets.

(f) Approval of temporary deviations

Add the following to subclause 1502 (f) :

"Before starting any activity that could possibly obstruct the flow of traffic on the existing roads, the Contractor shall submit his proposed plan for the accommodation of traffic to the Employer for his approval. This plan shall be in accordance with the requirements as set out in the latest edition of the SARTSM, Roadworks Signing – Chapter 13 as well as the general details as shown on the drawings.

Should the Contractor neglect to provide the necessary road signs or to take the necessary precautions regarding the safety and comfort of the public road user as set out in the latest edition of the SARTSM, Roadworks Signing – Chapter 13 as well as shown on the drawings, an instruction can be issued to stop all the work under this contract until such time as the Employer is satisfied that all the prescribed measures are complied to."

Add the following subclause :

"(j) Failure to comply with provisions for the accommodation of traffic

The failure of or refusal by the Contractor to construct and/or maintain diversions, barricades, traffic signs or road markings at the proper time, or to take the necessary precautions for safety and convenience of public traffic as specified or instructed by the Employer, shall be sufficient cause to suspend payment on this contract until the required construction or maintenance has been completed to the satisfaction of the Employer. Further, the Employer will have the right to stop any operation where the traffic accommodation measures are not to specification or as ordered and the Employer considers that there is a risk to the public. Such stoppage of the work will not be acceptable as a reason for extension of time or additional compensation."

B1503 TEMPORARY TRAFFIC CONTROL FACILITIES

Insert "Roadworks Signing - Chapter 13 as read in conjunction with" before "the South African Road Traffic Signs Manual" in the fifth line of the first paragraph.

Add the following after the second paragraph :

"No work may proceed in any section where accommodation of traffic is required until such time as the relevant requirements with regard to signposting are met. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the replacement of damaged or missing items within a period of three hours of instructions having been given by the Employer."

Insert "Roadworks Signing - Chapter 13 as read in conjunction with" before "the latest edition of the South African Road Traffic Signs Manual" in the fourth line of the third paragraph.

(a) Traffic-control devices

Add the following to sub-clause 1503(a) of the Specifications:

"All flagmen shall be equipped with reflective clothing and bright orange flags during the execution of their duties."

(e) Warning devices

Replace the first sentence of the first paragraph with:

"All construction equipment and plant used on the works shall be equipped with rotating amber flashing lights. The amber lens shall be at least 200mm high."

Add the following subclause:

"(g) Construction vehicle sign

A sign reading "CONSTRUCTION VEHICLE" in red lettering at least 400 mm high on a white background shall be securely and prominently fixed to the rear of all construction vehicles and shall ideally extend over the full width of the vehicle. It shall be kept clean and visible at all times."

Add the following new subclause (h):

"(h) Spare signs

The Contractor shall keep sufficient surplus barricades, signs, delineators and other associated signs or cones on or around the site to allow for the immediate replacement of damaged or missing items."

B1517 MEASUREMENT AND PAYMENT

Amend pay item 15.03 as follows:

Item 15.03 Temporary traffic-control facilities

Replace sub-item (a) as follows:

Item	Unit
(a) Flagmen	man-day

The unit of measurement shall be a full day and night worked by flagmen. A man-day shall be deemed to comprise three eight hour shifts in a twenty-four-hour period. Three shifts of eight hours per flagman equates to one man-day. Shorter single portion shifts (6 to 10 hours) shall be measured as a half man-day.

(b) Portable STOP and GO-RY signs.....	No.day
(d) Amber flicker lights.....	No.day
(e) Road signs, R- and TR-series	
(1) 600 mm diameter.....	No.day
(2) 900 mm diameter.....	No.day

	(3) 1200 mm diameter.....	No.day
(f)	Road signs, TW-series	
	(1) 900 mm sides.....	No.day
	(2) 1200 mm sides.....	No.day
	(3) 1500 mm sides.....	No.day
(h)	Delineators (TW401 & TW402):	
	(1) Single (600 mm x 150 mm)	No.day
	(2) Mounted back to back (600 mm x 150 mm)	No.day
	(3) Single (800 mm x 200 mm)	No.day
	(4) Mounted back to back (800 mm x 200 mm)	No.day
(j)	Traffic cones	
	(1) 400 mm high.....	No.day
	(2) 600 mm high.....	No.day

The Unit of Measurement shall be the number of each traffic-control facility provided multiplied by the number of days established on site (measured to the nearest half-day)"

The tendered rates shall include full compensation for the relocation of all traffic-control facilities to new positions during construction.

For example – if 10 cones in total are used on site for 2.5days then the measured quantity will be 10 x 2.5=25 number.days. The tendered rate shall include for all moves to new positions during 2.5 days. The same applies to all road signs, lights or delineators.

SECTION B 1800: DAY WORK

Add the following section to Series 1000: General of the standard specifications:

SERIES 1000: GENERAL

SECTION B 1800: DAY WORK

CONTENTS

B 1801	SCOPE
B 1802	GENERAL REQUIREMENTS
B 1803	LABOUR
B 1804	MATERIALS
B 1805	PLANT
B 1806	MEASUREMENT AND PAYMENT

B 1801 SCOPE

This section covers the evaluation and method of measurement and payment for work, ordered by the Engineer in writing, carried out on a daywork basis, all in accordance with subclause 40(3) of the General and/or Special Conditions of Contract.

B 1802 GENERAL REQUIREMENTS

Work will be classified as daywork only if the Engineer considers no other rate in the schedule of quantities appropriate for payment purposes.

Only work ordered in writing by the Engineer to be executed as daywork shall be measured and paid for at the rates tendered in the schedule of quantities.

The Contractor shall keep and submit records of the work performed in accordance with the requirements of 40(3) of the General and/or Special Conditions of Contract.

B 1803 LABOUR

The tendered rates for labour to be included as daywork charges shall include the salaries and wages of gangers or charge hands working with their gangs but shall exclude the costs of the time of the foremen or supervisors which will be deemed to have been included in the sums tendered for the relevant items in Section 1300 of the schedule of quantities.

Gross remuneration, as specified in subclause 40(3) of the general and/or special conditions of contract, will be deemed to include the following:

- (a) Basic salary/wage
- (b) Overhead charges such as fringe benefits not reflected in basic salary and wages which may include:
 - normal period bonus
 - employer's contribution to medical aid
 - group life assurance premiums
 - employer's contribution to pension/provident fund
 - all other costs as per letter of appointment

and costs payable due to statutory requirements, which may include:

- Workmen's Compensation Fund contribution
- Unemployment Insurance Fund contributions
- District Council levies or the equivalent thereof

The rates tendered for labour shall include for the actual cost of salaries and wages, all overhead charges, profit, liabilities, obligations, risks and incidentals for all workmen to execute work by dayworks.

B 1804 MATERIALS

The nett cost price of materials (exclusive of VAT) actually delivered to the site to be included as daywork charges shall include the costs of delivery to the usual points at which materials are received on the site.

Before ordering any material, the Contractor shall submit quotations to the Engineer for his approval, and shall submit such receipts or vouchers to the Engineer as may be necessary for proving the amount claimed.

The percentage tendered as an on-cost on the net cost price of materials shall include for all handling, overheads, profit, liabilities, obligations, risks, incidentals and other on-costs for the supply, delivery and distribution of material for daywork to the individual site(s) where daywork is in progress.

B 1805 PLANT

The full inclusive hourly cost of operational plant which is available on site or which has been removed without written authorization of the Engineer, to be included as daywork charges will be taken to be the tendered rate which, in the opinion of the Contractor, will be applicable in all respects to the situation and terms of the contract.

The hourly rate tendered or agreed shall constitute the daywork rate for the plant and will be deemed to include all costs for plant operators, consumable stores, fuel, maintenance, depreciation, ground-engaging tools and all other incidentals necessary to operate the plant for the purposes for which it was designed.

Failure on the part of the Contractor to state in the schedule of quantities the plant on which his tender is based, shall be considered as a firm agreement on the part of the Contractor that he waives all rights to distinguish between the different types and capacities of plant falling within the description and/or category given, and the Engineer shall have the right to call upon the Contractor to supply any such plant to the site and perform the work as directed by him at the particular tendered rate.

For plant not on site, the costs of establishing items of plant on the site for daywork on specific instruction of the Engineer will be negotiated with the Contractor at the time that such daywork is contemplated.

B 1806 MEASUREMENT AND PAYMENT

Item	Unit
B 18.01 Labour charges	
for items (a) – (f)	
description of employee/designation/skill indicated)	hour (h)

The unit of measurement shall be the hour of time worked by the particular employee on the designated work on instruction by the Engineer.

The daywork rates submitted for labour in the schedule of quantities shall be the cost of labour for each skill level and shall apply only to the number of workers approved in writing by the Engineer.

The rates shall be for normal working hours and shall be increased pro rata for overtime at the standard rate applicable if the work performed outside working hours is approved in writing by the Engineer.

The tendered rates shall include full compensation for all costs for salaries and wages, use and maintenance of tools and equipment, sick pay, leave pay, holidays with pay and financial charges of any description incurred by the Contractor and his subcontractors as well as for all insurance, accommodation, travelling, travelling time, supervision, overheads, profit, obligations, risks and any other emoluments and incidentals necessary for labour to execute work as daywork.

Item	Unit
B 18.02 Plant charges	
For items (a) – (b)	
description of plant indicated)	hour (h)

The unit of measurement shall be the hour actually worked by each item of plant (vehicle, machine or equipment) on the designated work on instruction by the Engineer.

The Contractor and the Engineer will agree on the method of recording the working hours prior to the commencement of work. Any long period of idling at any one time which in the opinion of the Engineer or his representative is beyond that required for normal operating conditions will not be paid for as working time. Non-working hours for any reason shall not be measured for payment.

The tendered rates include full compensation for furnishing and using the plant, including the cost of plant operators, consumable stores, fuel, ground-engaging tools, maintenance and for all other incidentals necessary to execute the authorised daywork as specified.

Item	Unit
B 18.03 Other plant not specified above	
(a) Procurement of plant not already specified in the tender by the Engineer.....	Provisional Sum
(b) Handling costs, profits and all other charges in respect of sub item B18.03(a).....	Percentage (%)

The provisional sum provided to cover the cost of other plant / equipment shall be expended in accordance with clause 6.6 (GCC 2010) of the General Conditions of Contract.

Item	Unit
B18.04 Transport	
(a) LDV minimum capacity 1800cc.....	kilometre (km)

The unit of measurement shall be the kilometre distance that the vehicle travelled for transporting personnel and/or plant/equipment. All travelling shall be approved by the engineer.

The tendered rate shall include full compensation for the cost of the vehicle including fuel, maintenance, depreciation and running costs.

The above mentioned tendered rates shall be full compensation for the various items as specified and no further profit shall be paid.

Item	Unit
B 18.05 Material charges	
(a) Actual cost of material	Provisional Sum
(b) Handling costs in respect of sub item B18.05(a).....	Percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 (GCC 2010) of the General Conditions of Contract. The provisional sum allowed shall include for the actual cost incurred for materials used in authorised daywork. The actual costs for materials shall not be subject to contract price adjustment.

The tendered percentage is a percentage of the amount actually spent under subitem B18.05(a) and shall include full compensation for the handling costs of the Contractor, profit, overheads and incidentals in connection with materials used for daywork on the instructions of the Engineer.

Payment for expenditure under this item will be made in full as and when the money is expended subject to written proof by the Contractor of payment of invoiced amounts.

SECTION 5700 : ROAD MARKINGS

B5702 MATERIALS

Replace all instances of "SABS 731-1" with "SANS 731-1:2015 and SANS 731-2:2015".

Add the following introductory paragraph:

" Where the properties of materials (before and after application/installation) are required to comply with specified specifications published by a standards authority, the contractor shall produce, when called upon to do so and at his/her own cost, certificates from the supplier/manufacturer confirming that the materials or products supplied comply with the relevant specifications. Where it is specified that a product shall comply with an SANS (SABS) specification, it means that the product shall have been tested and evaluated in accordance with the requirements of the relevant SANS (SABS) specification. Where an SANS (SABS) mark is specified, a certificate will be required. "

(a) Paint

(i) Roadmarking paint

Delete the first sentence of the first paragraph and replace with the following:

"Road-marking paint shall comply with requirements of SANS 731-1: 2015 (single-pack solvent-borne paints) and SANS 731-2: 2015 (single-pack water-borne paints) as follows:

Type 1: road-marking paint for machine spray application: quick-drying paint, only for machine spray application to concrete or bituminous (or both) road surfaces; or

Type 2: road-marking paint for general (or hand) application: paint for general application (by hand) to concrete or bituminous (or both) road surfaces."

Add the following to the second paragraph:

Each container, or a label securely fixed to the container, shall be clearly, legibly and indelibly marked with the following information:

- a) the manufacturer's name or the brand name of the product, or both;
- b) the words "Roadmarking paint" and, where applicable, the word "Retroreflective" or the words "Skidresistant";
- c) where applicable, the words "For bituminous surfaces only" or "For concrete and bituminous surfaces";
- d) the word "Type", followed by the number of the type (see first paragraph);
- e) the colour;
- f) where applicable, the words "Suitable for drop-on beads application";
- g) the word "Viscosity" followed by the numerical value of the viscosity (in Krebs units) and the letters "KU";
- h) the drying-time classification, for example "Class 1";
- i) the batch identification; and
- e) the directions for use, which should include all hazard warnings required in terms of current legislation.

(ii) Retro-reflective road-marking paint

Delete paragraph and replace with the following:

“Retro-reflective roadmarking paint shall comply with the requirements of subsubclause 5702 (a)(i) and glass beads used to improve the paint’s retro-reflectivity shall comply with the requirements of SANS 51423 : 1997.

Retro-reflective road-marking paint shall meet the following photometric requirements:

		Luminance Factor	Coefficient of Retroreflection (mcd / lx / m ²)
New materials	White	0.6	150
	Yellow	0.4	100
	Red	0.08	30
Used materials (at end of 12 month maintenance period)	White	0.45	100
	Yellow	0.3	70
	Red	0.06	20

Determination of conformance with the specification will be done in accordance with SANS 6261 : 1998.”

(b) Roadstuds

Replace “SABS 1442” with “SANS 1442 : 2008”.

Add the following:

In terms of the SANS 1442 the following are definitions of the various categories of roadstuds:

Category A roadstud - Corner cube retro-reflectors

Category B roadstuds - Biconvex retro-reflectors

Category C roadstuds - Omnidirectional retro-reflectors

(i) Dimensions

All road stud dimensions shall meet the requirements specified in SANS 1442 (Clause 3.2) and the minimum footprint area of the roadstud shall not be less than 7 500 mm² (approximately 75mm x 100mm).

The height of the part of the roadstud that is intended to protrude above the road surface shall be 15 to 22 mm.

(ii) Category and Photometric requirements

All road studs shall meet the Category A photometric requirements as specified in Clause 3.4 of SANS 1442.

(iii) Roadstud material

For the purposes of this contract, road studs shall be manufactured using either one of the following three main materials:

Type 1: Thermoplastic Material(Polyvinyl Chloride-PVC)

Type 2: Galvanised Cast Iron

Type 3: Aluminium

B5705 SURFACE PREPARATION

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

“The surface where road-marking paint is to be applied shall, where the extent and degree of surface contamination warrants this, be properly cleaned by means of a combination of high pressure water and an approved degreasing agent.”

B5704 MECHANICAL EQUIPMENT FOR PAINTING

Remove the last paragraph and replace with the following:

Any mechanical equipment to be used for this period tender shall adhere to each specific paints application rate, to ensure the required dry film thickness for each paint specified in this tender document. Clear visible road signage and amber warning lights shall be attached to the equipment whilst work is in progress, and sufficient measured shall be placed to accommodate traffic. Mechanical equipment can be a self-propelled machine and a walk-behind machine, which require any form of petroleum agent or electricity to function.

B5707 APPLYING THE PAINT

Remove the second last paragraph and replace with the following:

Ordinary road-marking paint shall be applied to a minimum dry film (DFT) thickness of 200 microns and hot-melt plastic roadmarking material shall be applied to a minimum thickness of 1.25 millimetres. Retro-reflective cementitious road-marking compound shall be applied to a minimum thickness of 2

millimetres. Cold- plastic roadmarking compound shall be applied to a minimum thickness of 3 millimetres.

B5708 APPLYING THE RETRO-REFLECTIVE BEADS AND ANTISKID AGGREGATE

Delete the second sentence and replace with the following:

“The rate of application of the beads shall be such so as to meet the photometric and skid resistance requirements specified in clause B5702.”

B5709 ROADSTUDS

Delete the first paragraph and replace with the following:

“Roadstuds shall be of the type specified in clause B5702(b) and shall be fixed in position in strict accordance with the manufacturer’s instructions.”

B5710 TOLERANCES

Add the following subclause:

“(e) Thickness

Applied road markings shall be subject to a thickness tolerance of $\pm 10\%$.”

B5712 FAULTY WORKMANSHIP OR MATERIALS

Add the following:

“Any lot of roadstuds found to perform unsatisfactorily under traffic conditions (i.e. more than 10% of installed lot removed from road surface due to traffic action or non-compliance with colour and photometric requirements) after the expiry of the 12-month maintenance period shall be replaced with an alternate

SANS approved roadstud at the contractor's expense. The newly installed lot shall be subject to a further 12 month maintenance period and subsequent performance appraisal."

B5714 MEASUREMENT AND PAYMENT

Replace "kilometre" with "metre" in all instances.

Change the descriptor in the second parenthesis of items 57.01(a),(b),(c) and 57.02(a),(b),(c) to read the following:

"(indicate method of application and width of line)"

"Item	Unit
B57.02 (1) and (2)	

Add the following pay items:

(g)	Percentage extra over for the application of water-borne (any colour)	%
(h)	Non-standardised road marking (any line, lettering or symbol not currently in SARTSM)	m ²
(i)	Temporary non-standardised road marking (any line, lettering or symbols not currently in SARTSM)	m ²

The unit of measurement for item (h) and (i) shall be the actual area applied to the surface. Non-standardised roadmarkings are roadmarkings which are not specified within the SARTSM Manuals, but is a roadmarking required to meet the client's needs for a specific road length, location or event.

The tendered percentage is a percentage of the amount actually spent under subitem B57.02(a) - (f) shall include include full compensation for the handling cost of the Contractor, profit, overheads and incidentals in connection with materials used on the instruction of the Engineer

"Item	Unit
B57.02	

Add the following pay items

(3)	kerb marking	m ²
(4)	Street Name Marking or any surface required	m ²

The unit of measurement for item (3) and (4) shall be the actual area applied to the surface. Non-standardised roadmarkings are roadmarkings which are not specified within the SARTSM Manuals, but is a roadmarking required to meet the client's needs for a specific road length, location or event.

Delete payment item 57.05 and replace with the following
Delete payment item 57.05 and replace with the following

Item	Unit
B57.05 Roadstuds:	
(a) Installation of roadstuds (type indicated)	Number (No)
(b) Material Costs in respect of B57.05(a)	Provisional Sum (Prov Sum)
(c) Handling Costs in respect of B57.05(b)	Percentage (%)

The unit of measurement for (a) shall be the actual number of roadstuds installed. The tendered rates shall include full compensation for procuring and furnishing all labour and equipment related to the installation of the roadstuds but excluding the costs of the actual roadstuds.

Expenditure under item (b) shall be made in accordance with Clause 6.6 (GCC2010) of the General Conditions of Contract. The provisional sum allowed shall include for the actual cost incurred for the procurement of the materials. The actual costs for materials shall not be subject to contract price adjustment.

The tendered percentage for (c) is a percentage of the amount actually spent under subitem B57.05(b) and shall include full compensation for the handling costs of the Contractor, profit, overheads and incidentals in connection with materials used on the instruction of the Engineer.

No additional payment will be made should temporary or permanent road studs be replaced if lost or broken during the construction period or during the Defects Notification Period.

“Item **Unit**

B57.08 Removal of existing, temporary roadmarkings or permanent road marking by:

Add the following pay item:

57.08 (c) By peeling off Non-permanent roadmarkings m

The unit of measurement for (C) shall be the actual length of non-permanent roadmarkings removed from the road surface. The removal shall be in the form of peeling off of the non-permanent roadmarkings.

The contractor shall include all extra cost relating to the removal of the non-permanent roadmarkings in item (a).

“Item **Unit**

B57.09 Removal of existing Standardized and Non- Standardized Roadstuds Number (No)

The Unit of Measurement shall be the actual number of roadstuds removed.

The tendered rate shall include full compensation for furnishing all equipment, labour and materials to remove the existing roadstuds as specified and to repair the road surface in case of any damage, as well as the disposal of the roadstuds.

Add the following pay item:

“Item **Unit**

B57.10 Preparing the road surface (cleaning and degreasing) square metre (m²)

The unit of measurement shall be the square metre of road surface prepared for the subsequent application of road markings.

The tendered rate shall include full compensation for furnishing all equipment, labour and material to prepare (clean and degrease) the road surface to the required standard for subsequent road-marking applications (see clause B5705). Traffic accommodation shall be paid for under the relevant pay item of section 1500.

SECTION 8100: TESTING MATERIALS AND WORKMANSHIP

B8102 TESTING METHODS

Replace "SANS". "SABS" in paragraph (b) with

Replace 8116 with the following:

"B8116 TESTING OF ROADMARKING PAINT

(a) Thickness determination of road-marking paint (dry-film thickness)

Place a suitably dimensioned uncoated metal plate (ferrous or non-ferrous) into the path of the machine applying the paint and allow the paint to dry before taking thickness measurements.

Measurements, using an approved electronic paint film thickness gauge (meeting the requirements of ISO 2178), shall be taken in three longitudinal zones across the plate. The zones should be approximately 30mm wide.

Ten readings shall be taken along each zone in a random pattern within the zone.

These thirty readings shall be used to produce:

- a mean dry-film thickness for the plate (microns)
- a minimum dry-film thickness (micro(ns) expressed as a factor of the standard deviation from that mean using the following formula:

$$\text{MPT} = \text{Pav} - (0.45 \times \text{Psd})$$

Where:

MPT = Minimum Paint Film Thickness (on a Plate) expressed in microns (dry-film thickness)

Pav = Average of 30 readings on a plate (microns)

Psd = Standard Deviation of the 30 plate readings (microns)

The MPT shall conform to the thickness requirements and tolerances specified in Section 5700 (clauses 5707 & 5710)."

SECTION 8200 : QUALITY CONTROL (SCHEME 1)

B8201 SCOPE

Add the following paragraph:

"Quality Control Scheme 1 as specified in Section 8200 shall apply to this contract."

3.4.4 WAYLEAVES, PERMISSIONS AND PERMITS

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

3.4.5 LOCAL PRODUCTION AND CONTENT

The Contractor will be required to comply with all requirements as stated in this document.

3.4.6 EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the contractor on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the employer's agent upon request.

3.4.7 UNIVERSAL ACCESS

In pursuit of becoming a fully accessible city, the City of Cape Town expects all Consultants and Service Providers to design and construct to SANS Standards for accessible Design, and any relevant City of Cape Town documents as may be relevant, and to exhibit a commitment to employing Universal Design Principles in their design, construction, service and product delivery of construction projects. This applies to all projects whether new, temporary, upgrades or rehabilitation works.

The contractor will engage with project representatives and the CCT's Universal Accessibility Department on how Universal Design Principles will enhance accessibility, within this project, that meets a variety of needs and creates a city that is accessible to everyone.

C3.5 Management

CONTENTS

- 3.5.1. FORMS FOR CONTRACT ADMINISTRATION
- 3.5.2. PARTICIPATION OF TARGETED LABOUR
- 3.5.3. COMMUNITY LIAISON OFFICER
- 3.5.4. PARTICIPATION OF TARGETED ENTERPRISES
- 3.5.5. ENVIRONMENTAL MANAGEMENT PROGRAMME
- 3.5.6. HEALTH AND SAFETY

3.5.1 FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall complete, sign and submit with each monthly statement for payment in respect of each Works Project contract, the following updated returns (the format of which are attached in C3.6 Annexes):

- a) Monthly Project Labour Report (Annex 1)
- b) B-BBEE Sub-Contract Expenditure Report (Annex 2)
- c) Joint Venture Expenditure Report (Annex 3)
- d) Targeted Labour Contract Participation Expenditure Report (Annex 4)
- e) Targeted Enterprises Contract Participation Expenditure Report (Annex 5)

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than R450.00 per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Contractor shall simultaneously furnish the Employer's Agent with copies of the signed employment contracts entered into with such labour, together with certified copies of identification documents, proof of attendance in the form of attendance register or timesheets, as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. 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 and proof of such acknowledgement shall be furnished to the Employer's Agent.

The Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein and copies of all submitted documents must be kept on site be made available to the employer's agent upon request.

The **B-BBEE Sub-Contract Expenditure Report** is required for monitoring the prime contractor's compliance with the sub-contracting conditions of the **Preference Schedule**.

The Joint Venture Expenditure Report is required for monitoring the joint venture's compliance with the percentage contributions of the JV partners as tendered, where the joint venture has been awarded preference points in respect of its consolidated B-BBEE scorecard.

The Targeted Labour Contract Participation Expenditure Report is required for monitoring the contractor's compliance for achieving the specified minimum targeted labour contract participation goal (CPG_L) and, if applicable, for calculating any penalty in terms thereof.

The Targeted Enterprises Contract Participation Expenditure Report (if applicable) is required for monitoring the contractor's compliance for achieving the specified minimum targeted enterprises contract participation goal (CPG_E) and, if applicable, for calculating any penalty in terms thereof.

The Expenditure Reports shall be verified by the Employer's Agent/Employer's Agent's Representative.

In respect of Annexes 2 and 3, the Employer shall, in addition to any other sanctions available to it, apply the financial penalties applicable to breach of preferencing conditions in the **Preference Schedule** in Part T2.2 Returnable Schedules. In the case of joint ventures (Annex 3), the contractor shall prove his compliance with item 6) in Section 2 of the **Preference Schedule** by providing a consolidated scorecard at his own cost on instruction from the Employer's Agent.

3.5.2 PARTICIPATION OF TARGETED LABOUR

3.5.2.1 Minimum targeted labour contract participation goal

In support of the National Department of Public Works' Expanded Public Works Programme which is aimed at alleviating poverty through the creation of temporary employment opportunities using labour intensive methodologies and practices where possible, the Employer is seeking to increase the intensity of labour, as appropriate, in all of its infrastructure sector projects.

It is a requirement of this term tender contract, therefore, that the work be executed in such a manner so as to maximise the use of labour intensive construction methods in order to provide low and semi-skilled temporary employment opportunities.

To this end, a minimum targeted labour contract participation goal is specified below, which shall be achieved by the Contractor in the performance of each Works Project contract, failing which, penalties as described will be applied. The Contractor is required to provide all skills training where necessary, so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of training shall be included in the rates for the various work activities.

The specified minimum targeted labour contract participation goal (CPG_L) is

0 %

The minimum CPG_L is such that the Contractor will have to carry out some of the work that would normally have been undertaken using mechanised construction methods, by using labour intensive construction methods instead. It is left to the discretion of the Contractor to identify suitable work activities for the intensification of labour. The Contractor shall, within 5 working days of being requested in writing by the Employer's Agent to do so, submit details of his/her plan to achieve the minimum CPG_L in the Works Project. If, due to the selection of items and quantities in any individual Works Project, it is not possible for the Contractor to achieve the specified minimum CPG_L on that particular Works Project, then the Employer's Agent, at his/her sole discretion, may reduce such minimum CPG_L upon motivation by the Contractor.

3.5.2.2 Definitions

For the purposes of the requirements in respect of the participation of targeted labour, the following definitions shall apply:

“**Target area**” means the geographical area described in the Works Project contract document.

“**Targeted labour contract participation goal (CPG_L)**” means the sum of the wages (excluding any benefits), for which the Contractor, or any of his/her sub-contractors contracts targeted labour in the performance of the contract, expressed as a percentage of the value of the contract.

“**Targeted labour**” means low and semi-skilled individuals, whose wages (excluding any benefits) do not exceed the threshold value, who reside in the target area, that are employed by the Contractor, or any of his/her sub-contractors, in the performance of the contract.

“**Threshold value**” is R450.00 per day as adjusted from time to time (excluding any benefits). The threshold value is not to be confused with any industry sector minimum wage determined in accordance with the Basic Conditions of Employment Act, 75 of 1977.

“**Value of the contract**” means the **Works Project** contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

3.5.2.3 The selection and recruitment of targeted labour

Where targeted labour is to be drawn from specific local communities (defined in terms of the target area), such labour shall be identified using the relevant Sub-Council Job-Seekers Database. The Contractor shall request, via a Community Liaison Officer (if required in terms of the contract), a list of suitable candidates

from the database, from which the Contractor shall make his/her final selection. The contractor shall enter into written contracts of temporary employment with all targeted labour.

Any difficulty experienced by the Contractor in identifying candidates through the Job-Seekers Database, or as regards any matter relating to the employment of targeted labour, shall be immediately referred to the Employer's Agent.

3.5.2.4 Contract participation goal credits

Credits towards the achieving the minimum CPG_L shall be granted by converting the total monetary value of wages paid to targeted labour (including that of sub-contractors) to a percentage of the value of the contract. No credits shall be accorded should the contractor/sub-contractor fail to enter into written contracts with the targeted labour. Furthermore, no credits shall be accorded in respect of targeted labour employed on work in respect of provisional sums or prime cost items. Such labour shall nevertheless be recorded on the Monthly Project Labour Report which is required to be furnished by the Contractor.

3.5.2.5 Training of targeted labour

The Contractor is required to provide all informal (on-the-job) skills training so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of informal training shall be included in the rates for the various work activities.

3.5.2.6 Penalties

The financial penalty to be applied for failing to meet the specified minimum targeted labour contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPG}_L^S - \text{CPG}_L^A) \times P^*$$

Where CPG_L^S = the specified minimum targeted labour contract participation goal (expressed as a percentage).

CPG_L^A = the targeted labour contract participation goal achieved (expressed as a percentage).

P^* = the value of the contract.

3.5.3 COMMUNITY LIAISON OFFICER

Certain Works Projects may require a Community Liaison Officer (CLO) to be appointed by the Contractor. The primary functions of the CLO shall be to assist the Contractor with the selection and recruitment of targeted labour, to represent the local community in matters concerning the use of targeted labour (and/or enterprises) on the works, and to assist with and facilitate communication between the Contractor, the Employer's Agent and the local communities.

The identification of suitable candidates (maximum 5; minimum 3) for the CLO position shall be resolved by the relevant Sub-council Manager through a process of advertising and shortlisting. Should suitable candidates not be identified through this process, the Contractor shall be allowed to seek candidates from the relevant Sub-Council Job-Seekers Database. The final selection and appointment of the CLO in terms of the contract shall be the responsibility of the Contractor.

The period of appointment of the CLO shall be as stated in the Contract for Temporary Employment as a Community Liaison Officer referred to below. The date of commencement of temporary employment of the CLO shall be as agreed with the Employer's Agent.

If it is required, therefore, that the Contractor enter into a contract of temporary employment with the selected CLO, the contracting parties will be the Contractor and the CLO. To this end, a specimen Form of Contract of Temporary Employment as Community Liaison Officer is included in this document (Part C1.9 Community Liaison Officer). This Form of Contract sets out, inter alia, the agreement between the parties, the duties and conditions of employment of the CLO. The rate of remuneration for the CLO, payable by the Contractor, is currently **R360.00** per day). As said contract will be between the Contractor and the CLO, all costs involved shall be borne by the Contractor and items will be provided in the Bills of Quantities in the Works Project contract document therefor.

3.5.4. PARTICIPATION OF TARGETED ENTERPRISES

3.5.4.1 Minimum targeted enterprises contract participation goal

It is a requirement of this contract that enterprises located within the target area, as defined, be engaged by the Contractor for the provision of supplies, services or works necessary for the performance of this contract.

To this end, a minimum targeted enterprises contract participation goal is specified below, which shall be achieved by the Contractor in the performance of the contract, failing which, penalties as described will be applied.

The specified minimum targeted enterprises contract participation goal (CPG_E) is

0 %

The Contractor shall engage targeted enterprises directly or indirectly in the performance of the contract to the extent that the total monetary value of such engagements (exclusive of VAT), expressed as a percentage of the value of the contract, is sufficient to achieve the specified minimum CPG_E.

3.5.4.2 Definitions

For the purposes of the requirements in respect of the participation of targeted enterprises, the following definitions shall apply:

“**Target area**” means the geographical area described in the Works Project contract document.

“**Targeted enterprises contract participation goal (CPG_E)**” means the value of supplies, services or works (exclusive of VAT), for which the Contractor contracts targeted enterprises, either directly or indirectly, in the performance of the contract, expressed as a percentage of the value of the contract.

“**Targeted enterprises**” means any sole trader, partnership or legal entity that acts as a supplier, manufacturer, service provider or sub-contractor, and which has its base of operations in the target area.

“**Value of the contract**” means the contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

3.5.4.3 Achieving the contract participation goal

The contractor may achieve the specified minimum CPG_E as follows:

- a) by engaging one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- b) by engaging non-targeted enterprises, who in turn engage one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- c) by a combination of the above.

The Contractor shall, within 5 working days of being requested by the Employer’s Agent to do so, submit details of his/her plan to achieve the minimum CPG_E.

3.5.4.4 Contract participation goal credits

Credits towards achieving the minimum CPG_E shall be granted by converting the total monetary value (exclusive of VAT) of the agreements between the Contractor, or Contractor’s sub-contractors, and targeted enterprises, to a percentage of the value of the contract.

No credits shall be accorded should the Contractor (or sub-contractors):

- a) make direct payment to third parties in connection with the contract on behalf of targeted enterprises, when such payment is recovered by making deductions from payments due to the targeted enterprise;
- b) fail to enter into written contractual agreements with the relevant targeted enterprises.

Credits claimed towards the contract participation goal shall be denied where such written contractual agreements contain any of the following:

- c) conditions which are more onerous than those that exist in the prime contract (this contract);
- d) payment procedures based on a pay when paid system;
- e) authoritarian rights given to the employing contractor, with no recourse to independent adjudication in the event of a dispute arising.

No credits may be claimed in respect of targeted enterprises that do not adhere to statutory labour practices.

No credits shall be accorded in respect of targeted enterprises engaged on work in respect of provisional sums or prime cost items.

In the event that a targeted enterprise sub-contracts to another targeted enterprise, only the value of the higher level sub-contract shall be granted as credit towards achieving the specified minimum CPG_E.

In addition to the form required for contract administration (the Targeted Enterprises Contract Participation Expenditure Report), the Contractor shall furnish the Employer's Agent, upon written request, with documentary evidence that the targeted enterprises have their base of operations in the target area, copies of the contractual agreements with the various targeted enterprises, as well as documentary proof of payments made to the various targeted enterprises.

3.5.4.5 Penalties

The financial penalty to be applied for failing to meet the specified minimum targeted enterprises contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPG}_E^S - \text{CPG}_E^A) \times P^*$$

Where CPG_E^S = the specified minimum targeted enterprises contract participation goal (expressed as a percentage).

CPG_E^A = the targeted enterprises contract participation goal achieved (expressed as a percentage).

P^* = the value of the contract.

3.5.5 ENVIRONMENTAL MANAGEMENT PROGRAMME

Particular Specification E: Environmental Management Specification and its Annexures are attached hereto.

3.5.6 HEALTH AND SAFETY

Particular Specification H: Health and Safety Specification is attached hereto.

E: ENVIRONMENTAL MANAGEMENT SPECIFICATION

CONTENTS

E1 SCOPE

E2 INTERPRETATIONS

- E2.1 Supporting specifications
- E2.2 Application
- E2.3 Definitions and abbreviations
 - E2.3.1 Environment
 - E2.3.2 Potentially hazardous substance
 - E2.3.3 Method Statement
 - E2.3.4 Reasonable
 - E2.3.5 Solid waste
 - E2.3.6 Contaminated water
 - E2.3.7 Working area
 - E2.3.8 Contractor's camp or construction camp
 - E2.3.9 Employer's Agent
 - E2.3.10 Employer's Agent's Representative (ER)
 - E2.3.11 Environmental Officer (EO)
 - E2.3.12 Environmental Control Officer (ECO)
 - E2.3.13 Environmental Site Officer (ESO)
 - E2.3.14 Abbreviations
- E2.4 Employer's Agent's authority to delegate

E3 MATERIALS

- E3.1 Materials handling, use and storage
- E3.2 Hazardous substances

E4 PLANT

- E4.1 Fuel (petrol and diesel) and oil
 - E4.1.1 Storage
 - E4.1.2 Refuelling
 - E4.1.3 Treatment and remediation
- E4.2 Ablution and toilet facilities
- E4.3 Eating areas
- E4.4 Solid waste management
 - E4.4.1 Litter and refuse
 - E4.4.2 Construction waste
- E4.5 Contaminated water management
- E4.6 Site structures
- E4.7 Lights
- E4.8 Workshop, equipment maintenance and storage
- E4.9 Noise

E5 CONSTRUCTION

- E5.1 Method Statements
 - E5.1.1 Method Statements to be provided within 14 days from the Commencement Date
- E5.2 Environmental Awareness Training
 - E5.2.1 Training Course for Management and Foremen
 - E5.2.2 Training Course for Site Staff and Labour
- E5.3 Contractor's Environmental Representative (ESO)
- E5.4 Site division, demarcation and "no go" areas
- E5.5 Access routes/ haul roads
- E5.6 Construction personnel information posters
- E5.7 Fire control
- E5.8 Emergency procedures
- E5.9 Health and safety
- E5.10 Community relations
- E5.11 General protections in terms of the National Heritage Resources Act, 25 of 1999
- E5.12 Protection of natural features
- E5.13 Protection of flora and fauna
- E5.14 Erosion and sedimentation control

- E5.15 Aesthetics
- E5.16 Temporary site closure
- E5.17 Asphalt and bitumen
- E5.18 Dust
- E5.19 Contractor's advertising signage
- E5.20 Clearance of Site on completion
- E5.20.1 Clause E3.1
- E5.20.2 Clause E4.1.3
- E5.20.3 Clause E4.4
- E5.20.4 Clause E5.4
- E5.20.5 Clause E5.5
- E5.20.6 Clause E5.7
- E5.20.7 Clauses E5.11 to 5.13
- E5.20.8 Clause E5.14
- E5.20.9 Clause E5.19

E6 TOLERANCES

- E6.1 Fines

E7 TESTING

E8 MEASUREMENT AND PAYMENT

- E8.1 Basic principles

- ANNEXURE A: ENVIRONMENTAL METHOD STATEMENT
- ANNEXURE B: ENVIRONMENTAL SITE INSPECTION CHECKLIST
- ANNEXURE C: CONSTRUCTION PERSONNEL INFORMATION POSTER
- ANNEXURE D: ADDITIONAL ENVIRONMENTAL ISSUES DEEMED TO FORM PART OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

E: ENVIRONMENTAL MANAGEMENT SPECIFICATION

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

E1 SCOPE

The Environmental Management Programme (EMP) for the project is comprised of this Environmental Management (EM) Specification and its Annexures, including the "Additional environmental issues deemed to form part of the Environmental Management Specification" attached as Annexure D hereto, which together cover the requirements for controlling the impact on the environment of construction activities.

E2 INTERPRETATIONS

E2.1 Supporting specifications

The following standardised specification shall, *inter alia*, apply to this Contract:

- a) SANS 1200A, as may be varied or added to in the Scope of Work

E2.2 Application

This EM Specification contains clauses that are generally applicable to the undertaking of construction works in areas where it is necessary to impose pro-active controls on the extent to which the construction activities impact on the environment.

In the event of any difference or discrepancy between the provisions of the Standardised Specifications and the provisions of the EM Specification, the latter shall prevail.

E2.3 Definitions and abbreviations

For the purposes of this EM Specification the following definitions and abbreviations shall apply:

E2.3.1 Environment

The surroundings within which humans exist and that are made up of -

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

E2.3.2 Potentially hazardous substance

A substance which, in the reasonable opinion of the Employer's Agent, can have a deleterious effect on the environment.

E2.3.3 Method Statement

A written submission by the Contractor to the Employer's Agent in response to the EM Specification or a request by the Employer's Agent, setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, in such detail that the Employer's Agent is enabled to assess whether the Contractor's proposal is in accordance with the Scope of Work and/or will produce results in accordance with the EM Specification.

E2.3.4 Reasonable

Unless the context indicates otherwise, means reasonable in the opinion of the Employer's Agent after he has consulted with a person suitably experienced in "environmental implementation plans" and "environmental management plans" (both as defined in the National Environmental Management Act, 107 of 1998).

E2.3.5 Solid waste

All solid waste, including construction debris, chemical waste, excess cement/ concrete, wrapping materials, timber, tins and cans, drums, wire, nails, domestic waste, dead vegetation, asphalt products, etc.

E2.3.6 Contaminated water

Water contaminated by the Contractor's activities containing cements, concrete, lime, paint products, thinners, turpentine, chemicals, fuels, oils washing detergents, etc.

E2.3.7 Working area

Any area within the boundaries of the Site where construction is taking place.

E2.3.8 Contractor's camp or construction camp

The area designated for all temporary site offices, storage areas, construction plant parking areas, staff welfare facilities, etc.

E2.3.9 Employer's Agent

The person/firm so named in the Contract Data, whose function is to administer the Contract as agent of the Employer.

E2.3.10 Employer's Agent's Representative (ER)

The natural person appointed by the Employer's Agent in terms of the Contract, who shall observe the execution of the Works, examine and test materials and workmanship, and deliver and receive communications to/from the Contractor.

E2.3.11 Environmental Officer (EO)

Appointed by the Employer's Agent as his environmental representative on Site, with the mandate to enforce compliance with the EMP. The duties of the EO are stipulated in the City's guideline document for the EO and ER.

E2.3.12 Environmental Control Officer (ECO)

An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of Environmental Authorisations (EAs), and the EMP for the project.

E2.3.13 Environmental Site Officer (ESO)

Employed by the Contractor as his environmental representative to monitor, review and verify compliance with the EMP by the Contractor. The ESO must ensure that he is involved at all phases of the construction (from site clearance to rehabilitation).

E2.3.14 Abbreviations

The following abbreviations occur in this EM Specification:

EMP - Environmental Management Programme
EM Specification – Environmental Management Specification
EO - Environmental Officer
ECO – Environmental Control Officer
ESO – Environmental Site Officer
ER – Employer’s Agent’s Representative
MSDS - Material Safety Data Sheets

E2.4 **Employer’s Agent’s authority to delegate**

In terms of Clause 3.2.4 of the General Conditions of Contract, Third Edition, 2015 (GCC 2015), the Employer’s Agent has the authority to appoint a representative. Other than the Employer’s Agent’s Representative (ER) in terms of Clause 3.2, this can be in the form of an Environmental Officer (EO), who shall be responsible for monitoring compliance with the EMP. All instructions given by the EO shall go through the ER, who will then convey these to the Contractor, except in the case of an environmental emergency, in which case the EO can issue an instruction directly to the Contractor. An environmental emergency is one which, in the opinion of the EO, would cause serious environmental harm if not addressed immediately.

Depending on the nature/environmental sensitivity of the Contract the following variations in the organisational structure are possible:

- a) The ER may work together with an EO; or
- b) There may be an ER only (for construction projects with low potential for causing significant environmental impacts). In this case the ER has responsibility for the EO’s functions.
- c) There may be an independently appointed Environmental Control Officer (ECO) who will fulfil essentially the same functions as the EO. The ECO may work with just the ER (if there is no EO) or may work with both the ER and EO.

The term “Employer’s Agent” in this EM Specification refers to the Employer’s Agent as defined in Clause E2.3.9 acting through the ER/EO/ECO as delegated.

E3 **MATERIALS**

E3.1 **Materials handling, use and storage**

The Contractor shall ensure that any delivery drivers are informed of all procedures and restrictions (including "no go" areas) required to comply with the EM Specification. The Contractor shall ensure that these delivery drivers are supervised during off loading by someone with an adequate understanding of the requirements of the EM Specification.

Materials shall be appropriately secured to ensure safe passage between destinations. Loads, including but not limited to, sand, stone chip, fine vegetation, refuse, paper and cement, shall have appropriate cover to prevent them spilling from the vehicle during transit. The Contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials.

All manufactured and or imported materials shall, where reasonably possible, be stored within the Contractor’s camp and, if so required by the Employer’s Agent, out of the rain. The location and method of protection of such materials stored outside of the Contractor’s camp and the method of rehabilitation of these areas, shall be subject to the Employer’s Agent’s approval.

Stockpile areas shall be approved by the Employer’s Agent before any stockpiling commences.

E4 **Hazardous substances**

Hazardous chemical substances (as defined in the Regulations for Hazardous Chemical Substances in GN 1179 (25 August 1995)) stored on Site for use during construction shall be stored in secondary containers which are clearly and appropriately marked/signed. The relevant Material Safety Data Sheets (MSDS) shall be available on Site. Procedures detailed in the MSDSes shall be followed in the event of an emergency situation.

If potentially hazardous substances are to be stored on Site, the Contractor shall inform the Employer’s Agent of such substances and provide a Method Statement detailing the substances/ materials to be used, together with the storage, handling and disposal procedures of the materials. Hazardous substances shall be stored out of flood risk areas and disposal of these substances shall be at a licensed waste disposal

facility. **PLANT (referring to “Construction Equipment” as defined in GCC 2015, and the Contractor’s facilities as used in SANS 1200A)**

E4.1 Fuel (petrol and diesel) and oil

E4.1.1 Storage

If fuel and oil is to be stored on Site, then the Contractor shall submit a Method Statement covering the procedures for dealing with accidental hydrocarbon spillage and leaks, and detailing how these liquids will be stored, handled and disposed of.

The Employer’s Agent shall approve the location of all fuel storage areas. All necessary approvals with respect to fuel storage and dispensing shall be obtained from the appropriate authorities. Symbolic safety signs depicting “**No Smoking**”, “**No Naked Lights**” and “**Danger**” conforming to the requirement of SANS 1186 are to be prominently displayed in and around the fuel storage area. There shall be adequate fire-fighting equipment at the fuel storage area.

The Contractor shall ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly shut and adequately secured. The capacity of the tank shall be clearly displayed and the product contained within the tank clearly identified using the emergency information system detailed in SANS 0232 part 1. Fuel storage tanks shall have a capacity not exceeding 9000 litres and shall be kept on site only for as long as fuel is needed for construction activities, on completion of which they shall be removed.

The tanks shall be situated on a smooth impermeable base with an earth bund. The volume inside the bund shall be 110% of the total capacity of the largest storage tank. The base may be constructed of concrete, or of plastic sheeting with impermeable joints, covered by a layer of compacted earth to protect the sheeting. The impermeable lining shall extend to the crest of the bund. The floor of the storage area shall be sloped to enable any spilled fuel and/or fuel-contaminated water to be removed easily.

If any rainwater collects in the bunded areas, it shall be promptly removed and taken off Site to a disposal site approved by the Employer’s Agent.

Only empty and externally clean tanks may be stored on the bare ground. Empty and externally dirty tanks shall be sealed and stored on an area where the ground has been protected.

Adequate precautions shall be provided to prevent spillage during the filling of any tank and during the dispensing of the contents. If fuel is dispensed from 200 litre drums, the proper dispensing equipment shall be used, and the drum shall not be tipped in order to dispense fuel. The dispensing mechanism for the fuel storage tanks shall be stored in a waterproof container when not in use.

E4.1.2 Refuelling

Plant shall be refuelled at a designated refuelling area approved by the Employer’s Agent. The surface under the temporary refuelling area shall be protected against pollution to the reasonable satisfaction of the Employer’s Agent prior to any refuelling activities. The Contractor shall ensure that there is always a supply of absorbent material (e.g. Spill Sorb or Enretech #1 powder or equivalent) readily available that is designed to absorb, break down and encapsulate minor hydrocarbon spillage. The quantity of such material shall be able to handle a minimum of 200 litres of hydrocarbon liquid spill.

E4.1.3 Treatment and remediation

Treatment and remediation of hydrocarbon spill and leak areas shall be undertaken to the satisfaction of the Employer’s Agent. In the event of a hydrocarbon spill the source of the spillage shall be isolated and the spillage contained.

E4.2 Ablution and toilet facilities

Washing, whether of the person or of personal effects, defecating and urinating are strictly prohibited other than at the facilities provided.

The Contractor shall provide ablution facilities for all personnel employed on the Site, including shelter, toilets and washing facilities. The Contractor’s personnel will not be permitted to use the City’s ablution facilities.

Toilet facilities provided by the Contractor shall occur in a ratio of not less than 1 toilet per 30 workers (1:15 is preferred) of each sex. Toilet facilities shall be located within the Contractor's camp, but also at work areas remote from the camp, all to the satisfaction of the Employer's Agent. All portable toilets shall be adequately secured to the ground to prevent them toppling over as a result of wind or any other cause.

The Contractor shall ensure that the entrances to these toilets are adequately screened from view, that they are maintained in a hygienic state, serviced regularly, that no spillage occurs when they are cleaned and that contents are removed from Site. Toilets shall also be emptied before any temporary site closure for a period exceeding one week. Discharge of waste from toilets into the environment and burial of waste is strictly prohibited. The Contractor shall provide toilet paper at all times.

No ablution facilities shall be located closer than 50m to any water body

A Method Statement shall be provided by the Contractor detailing the provision, location, and maintenance of ablution facilities.

E4.3 Eating areas

The Contractor shall designate eating areas within the approved Contractor's camp. The feeding of, or leaving of food for, animals is strictly prohibited. Sufficient bins, as specified in Clause E4.4 below, shall be present in these areas.

Any cooking on Site shall be done on well-maintained gas cookers with fire extinguishers present. No open fires for cooking purposes shall be permitted, unless for occasional use in facilities specifically provided for this purpose and within the confines of the Contractor's camp.

E4.4 Solid waste management

E4.4.1 Litter and refuse

The site shall be kept neat and clean at all times, littering is prohibited.

No on-site burying or dumping of any waste materials, vegetation, litter or refuse shall occur. The Contractor shall provide scavenger and weatherproof bins with lids, of sufficient number and capacity to store the solid waste produced on a daily basis. The lids shall be kept firmly on the bins at all times. Bins shall not be allowed to become overfull and shall be emptied regularly, at least once a week. Waste from bins may be temporarily stored on Site in a central waste area that is weatherproof and scavenger-proof, and which the Employer's Agent has approved. Wherever possible refuse shall be recycled, and containers for glass, paper, metals and plastics shall be provided and the contents delivered to suitable recycling facilities when necessary.

All other litter and refuse shall be disposed of off Site at an approved landfill site. The Contractor shall supply the Employer's Agent with a certificate of disposal.

E4.4.2 Construction waste

Where possible all construction waste or spoil material shall be recycled, either on Site or elsewhere. As a last resort all construction waste shall be disposed of off Site at an approved landfill site. The Contractor shall supply the Employer's Agent with a certificate of disposal.

E4.5 Contaminated water management

Potential pollutants of any kind and in any form shall be kept, stored, and used in such a manner that any spill or escape can be contained and the water table and/or any adjacent water courses or bodies are not endangered. Spill kits which can be used to contain and/or mop up spills shall be available. Water containing such pollutants as cements, concrete, lime, chemicals, oils and fuels shall be discharged into a conservancy tank for removal from the Site to a licensed disposal facility. This particularly applies to water emanating from concrete batching plants and to runoff from fuel storage, refuelling or construction equipment washing areas. Wash down areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas are not polluted.

No paint products, chemical additives and cleaners, such as thinners and turpentine, may be disposed of into the stormwater system or elsewhere on Site. Brush/roller wash facilities shall be established to the satisfaction of the Employer's Agent.

A Method Statement shall be provided by the Contractor detailing the management of contaminated water.

Should contaminated water be released into the environment, specifically into a water course, monitoring thereof shall commence in accordance to the National Water Act, 36 of 1998, Section 21(f) – refer to GN 399 (26 March 2004). Contaminated water must not be released into the environment without authorisation from the relevant authority.

The Contractor shall notify the Employer's Agent immediately of any pollution incidents on Site and, at his own cost, take all reasonable measures to contain and minimise the effects of the pollution.

Any rehabilitation of the environment required as a result of such pollution shall be carried out by the Contractor at his own cost in accordance with a Method Statement approved by the Employer's Agent.

E4.6 Site structures

The type and colour of roofing and cladding materials to the Contractor's temporary structures shall be selected to reduce the visual impact.

E4.7 Lights

The Contractor shall ensure that any lighting installed on the Site for his activities does not cause a reasonably avoidable disturbance to other users of the surrounding area.

Lighting installed shall, as far as practically possible, be energy efficient. Lighting utilised on Site shall be turned off when not in use.

E4.8 Workshop, equipment maintenance and storage

No workshops or plant maintenance facilities shall be constructed on Site for performing major or routine maintenance of equipment and vehicles.

The Contractor shall ensure that in those areas where, after obtaining the Employer's Agent's approval, the Contractor carries out emergency or minor routine plant maintenance, there is no contamination of the soil, water sources or vegetation. Drip trays to collect waste oil and other lubricants shall be provided in any areas of the Site where such maintenance takes place. Drip trays must be emptied regularly and after rain, and the contents disposed of at a licensed disposal facility.

All vehicles and plant shall be kept in good working order. Leaking vehicles and plant shall be repaired immediately or removed from the Site.

The washing of vehicles and plant on Site shall be restricted to emergency or minor routine maintenance requirements only. Washing may only be undertaken in areas designated by the Employer's Agent.

E4.9 Noise

The Contractor shall limit noise levels (for example, by installing and maintaining silencers on plant). The provisions of SANS 1200A Clause 4.1 regarding "built-up areas" shall apply.

Appropriate directional and intensity settings are to be maintained on all hooters and sirens.

No amplified music shall be allowed on Site. The use of audio equipment shall not be permitted, unless the volume is kept sufficiently low so as to be unobtrusive. The Contractor shall not use sound amplification equipment on Site, unless in emergency situations.

Construction activities generating output levels of 85 dB(A) or more in residential areas, shall be confined to the hours 08h00 to 17h00 Mondays to Fridays. Should the Contractor need to do this work outside of the above times, he shall do so only with the approval of the Employer's Agent, and the surrounding communities shall be informed prior to the work taking place.

E5 CONSTRUCTION

E5.1 Method Statements

The Contractor shall submit the environmental method statements required within such reasonable time as the Employer's Agent shall specify or as required by the EM Specification. The Contractor shall not commence any activity until the Method Statement in respect thereof has been approved and shall, except in the case of emergency activities, allow a period of two weeks for consideration of the Method Statement by the Employer's Agent.

The Employer's Agent may require changes to a Method Statement if the proposal does not comply with the specification or if, in the reasonable opinion of the Employer's Agent, the proposal may result in, or carries a greater than reasonable risk of, damage to the environment in excess of that permitted by the EM Specification.

Approved Method Statements shall be readily available on the Site and shall be communicated to all relevant personnel. The Contractor shall carry out the Works in accordance with the approved Method Statement. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the Contract.

Changes to the way the Works are to be carried out must be reflected by amendments to the original approved Method Statements, and these amendments require the signature of both the Contractor and the Employer's Agent.

Method Statements shall consider all environmental hazards and risks identified by the Contractor and/or Employer's Agent and shall contain sufficient information and detail to enable the Employer's Agent to assess the potential negative environmental impacts associated with the proposed activity and shall cover applicable details with regard to:

- a) construction procedures,
- b) materials and equipment to be used,
- c) getting the equipment to and from Site,
- d) how the equipment/material will be moved while on Site,
- e) how and where material will be stored,
- f) the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur,
- g) the control of fire,
- h) timing and location of activities,
- i) compliance/non-compliance with the EM Specification,
- j) any other information deemed necessary by the Employer's Agent.

The format to be used for the required method statements is bound in Annexure A of this EM Specification. The Contractor (and, where relevant, any sub-contractors) must also sign the Method Statement, thereby indicating that the work will be carried out according to the methodology contained in the approved Method Statement.

E5.1.1 Method Statements to be provided within 14 days from the Commencement Date

- a) Layout and Preparation of Contractor's Camp (E5.4).
- b) Ablution Facilities: number of, location, cleaning, method of securing to the ground, etc. of portable toilets (E4.2).
- c) Solid Waste Management: number of, type, location, cleaning, method of securing to the ground, etc. of bins (E4.4).
- d) Environmental Awareness Training: logistics for the environmental awareness courses for all the Contractor's management staff, as well as other employees (E5.2).
- e) Emergency Procedures for Accidental Hydrocarbon Leaks and Spillages (E4.1 and E5.8).
- f) Asphalt and Bitumen: details of all methods and logistics associated with the use of bitumen and asphalt (E5.11).

E5.2 Environmental Awareness Training

It is a requirement of this Contract that environmental awareness training courses are run for all personnel on Site. Two types of courses shall be run: one for the Contractor's and subcontractors' management, and one for all site staff and labourers. Courses shall be run during normal working hours at a suitable venue provided by the Contractor. All attendees shall remain for the duration of the course and sign an attendance register that clearly indicates participants' names on completion, a copy of which shall be handed to the Employer's Agent. The Contractor shall allow for sufficient sessions to train all personnel. Subsequent sessions shall be run for any new personnel coming onto Site. A Method Statement with respect to the organisation of these courses shall be submitted.

Notwithstanding the specific provisions of this clause, it is incumbent upon the Contractor to convey the spirit of the EM Specification to all personnel involved with the Works.

E5.2.1 Training Course for Management and Foremen

The environmental awareness training course for management shall include all management and foremen. The course, which shall be presented by the Employer's Agent or his designated representative, shall be of approximately one hour duration. The course shall be undertaken prior to the commencement of work on Site.

E5.2.2 Training Course for Site Staff and Labour

The environmental awareness training course for site staff and labour shall be presented by the Contractor from material provided by the Employer's Agent. The course shall be approximately one hour long. The course shall be undertaken not later than 3 working days after the commencement of work on Site, with sufficient sessions to accommodate all available personnel.

All the Contractor's employees, sub-contractors' employees and any suppliers' employees that spend more than 1 day a week or four days in a month on Site shall attend the Environmental Awareness Training Course for Site Staff and Labour

E5.3 Contractor's Environmental Representative (ESO)

The Contractor shall appoint an environmental representative, also called an Environmental Site Officer (ESO), who shall be responsible for undertaking a daily site inspection to monitor compliance with this EM Specification. The Contractor shall forward the name of the environmental representative (ESO) to the Employer's Agent for his approval. The environmental representative (ESO) shall complete Environmental Site Inspection Checklists (Annexure B attached hereto) and these shall be submitted to the Employer's Agent once a week.

E5.4 Site division, demarcation and "no go" areas

The Contractor shall restrict all his activities, materials, plant and personnel to within the Site or any particular working areas specified or indicated on the drawings.

The Contractor shall erect and maintain permanent and/or temporary fences of the type and in the locations specified elsewhere in the Scope of Work or on the drawings. Such fences shall, if so specified, be erected before undertaking any construction activities.

Where environmentally sensitive areas are specified as "no go" areas, the Contractor shall ensure that, insofar as he has the authority, no person, plant or material shall enter the "no go" areas at any time.

A Method Statement detailing the layout and method of establishment of the Contractor's camp (including all offices, shelters, eating areas, storage areas, ablution facilities and other infrastructure required for the running of the project) shall be provided.

E5.5 Access routes/ haul roads

On the Site and, if so required, within such distance of the Site as may be stated by the Employer's Agent, the Contractor shall control the movement of all vehicles and construction equipment, including that of his suppliers, so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic, and that all relevant laws are complied with. In addition, the movement of such vehicles and construction equipment shall be planned and operated so as to minimise disruption to regular users of the routes. As far as possible the Contractor shall use existing access and haul routes. Damage to existing access roads as a result of construction activities shall be repaired to the satisfaction of the Employer's Agent, using material similar to that originally used. The cost of the repairs shall be borne by the Contractor. New temporary access or haul routes may only be established with the prior approval of the Employer's Agent. The rehabilitation of such routes shall be to the Contractor's own cost and to the approval of the Employer's Agent.

Any directional signage required by the Contractor for the purposes of directing the movement of his own vehicles and construction equipment (or that of his subcontractors or suppliers) must be of a design and in a location approved by the Employer's Agent. Directional signage may not be erected in such a manner that it interferes with sight lines or pedestrian movement.

E5.6 Construction personnel information posters

The Contractor shall erect and maintain information posters for the information of his employees, depicting actions to be taken to ensure compliance with aspects of the EM Specification. A2 information posters, printed on white vinyl, shall be erected at the eating areas and any other locations specified by the Employer's Agent.

The specification for the poster is presented in Annexure C of this EM Specification. The symbols shall be black and the circles shall be red lines. The Contractor shall ensure that the construction personnel information posters

are not damaged in any way, and shall replace a poster if any part of it becomes illegible.

E5.7 Fire control

Other than for cooking purposes as specified in Clause E4.3, no fires may be lit on Site. Any fires which occur shall be reported to the Employer's Agent immediately.

Smoking shall not be permitted in those areas where it is a fire hazard. Such areas shall include fuel storage and refuelling areas, and any other areas where the vegetation or other materials are susceptible to the start and rapid spread of fire.

In terms of the National Environment Management: Air Quality Act, 39 of 2004 and Community Fire Safety By-law, burning is not permitted as a disposal method.

The Contractor shall appoint a Fire Officer (who may be the ESO) who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall forward the name of the Fire Officer to the Employer's Agent for his approval.

The Contractor shall comply with Clause 27 of the Construction Regulations, 2003 where applicable, and shall ensure that there is suitable and sufficient fire-fighting equipment available on Site at all times.

The Contractor shall be liable for any costs relating to the rehabilitation of burnt areas, should the fire be the result of the Contractor's activities on Site

The Contractor shall submit a Method Statement to the Employer's Agent covering the procedure to be followed in the event of a fire.

E5.8 Emergency procedures

The Contractor's attention is drawn to the Method Statements required in terms of Clauses E4.1 and E5.7 above. Such Method Statements shall include procedures to be followed by the Contractor in the event of an emergency.

Furthermore, in the event of an emergency the Contractor shall contact the City of Cape Town's Emergency Call Centre by telephoning 107 or 021 480 7700 (from a cell phone). Telephone numbers of emergency services, including the local fire fighting service, shall be posted conspicuously in the Contractor's office near the telephone.

E5.9 Health and safety

The Contractor shall comply with requirements of the Occupational Health and Safety Act, 85 of 1993 and Construction Regulations, 2014, the Health and Safety Specification and relevant clauses of GCC 2015, insofar as health and safety is concerned.

E5.10 Community relations

If so required, the Contractor shall erect and maintain information boards in the position, quantity, design and dimensions specified in the Scope of Work or as directed by the Employer's Agent. Such boards shall include contact details for complaints by members of the public in accordance with details provided by the Employer's Agent.

The Contractor shall keep a "Complaints Register" on Site. The Register shall contain all contact details of the person who made the complaint, and information regarding the complaint itself.

E5.11 General protections in terms of the National Heritage Resources Act, 25 of 1999

The Contractor shall take cognisance of the provisions of the National Heritage Resources Act, 25 of 1999 in respect of, *inter alia*, structures older than 60 years; archaeology, palaeontology and meteorites; burial grounds and graves; and public monuments and memorials.

E5.12 Protection of natural features

The Contractor shall not deface, paint, damage or mark any natural features (e.g. rock formations) situated in or around the Site for survey or other purposes, unless agreed beforehand with the Employer's Agent. Any features affected by the Contractor in contravention of this clause shall be restored/ rehabilitated to the satisfaction of the Employer's Agent. The cost of restoration/rehabilitation shall be borne by the Contractor.

The Contractor shall not permit his employees to make use of any natural water sources (e.g. springs, streams, open water bodies) for the purposes of swimming, personal washing and the washing of machinery or clothes.

E5.13 Protection of flora and fauna

Except to the extent necessary for the carrying out of the Works, as specified by the Employer's Agent, no vegetation shall be removed, damaged or disturbed.

The presence of any wild animals found on Site shall be reported to the Employer's Agent, who shall issue an instruction with regard to their removal or relocation. If a wild animal needs removal from the Site the Cape Nature (Metro Region) Conservation Services Manager may be contacted for assistance (tel 021 955 9132/9121/3122/9130). Trapping poisoning, injuring or shooting animals is strictly forbidden. No domestic pets or livestock are permitted on Site, with the exception of controlled watchdogs approved by the Employer's Agent.

Where the use of herbicides, pesticides and other poisonous substances has been specified, the Contractor shall submit a Method Statement to the Employer's Agent for approval.

E5.14 Erosion and sedimentation control

The Contractor shall take all reasonable measures to limit erosion and sedimentation due to the construction activities and shall, in addition, comply with such detailed measures as may be required by the Scope of Work. Where erosion and/or sedimentation, whether on or off the Site, occurs, rectification shall be carried out in accordance with details specified by the Employer's Agent. Where erosion and/or sedimentation occur due to the fault of the Contractor, rectification shall be carried out to the reasonable requirements of the Employer's Agent, at the Contractor's cost. In particular, the Contractor shall ensure that the City's stormwater system is kept free from sediment arising from the Works.

Any runnels or erosion channels developed during the construction period or during the vegetation establishment period shall be backfilled and compacted, and the areas restored to a proper condition. Stabilisation of cleared areas to prevent and control erosion shall be pro-actively managed by the Contractor. The method of stabilisation shall be determined in consultation with the Employer's Agent.

E5.15 Aesthetics

The Contractor shall take any requisite measures to ensure that construction activities do not have an undue negative impact on the aesthetics of the area.

E5.16 Temporary site closure

In the event of temporary site closure (for a period exceeding one week), the Contractor's ESO shall carry out checks and ensure that, amongst others, the following conditions pertain and report on compliance with this clause:

- a) Fire extinguishers are serviced and accessible.
- b) There is adequate ventilation in enclosed spaces.
- c) All hazardous substance stores are securely locked.
- d) Fencing and barriers are in place.
- e) Emergency and management contact details are prominently displayed and available.
- f) Wind and dust mitigation measures, e.g. straw, brush packs, irrigation, etc. are in place.
- g) Excavated and filled slopes and stockpiles are at a stable angle and capable of accommodating normal expected water flows.
- h) There are sufficient detention ponds or channels in place.
- i) Cement and materials stores are secured.
- j) Toilets are empty and secured.
- k) Central waste area and all refuse bins are empty and secured.
- l) Contaminated water conservancy tank empty.
- m) Any bunded areas are clean and treated with an approved product where applicable (e.g. Spill Sorb or Enretech #1 powder or equivalent).
- n) Drip trays are empty and secure

E5.17 Asphalt and bitumen

Bitumen drums/products, if stored on Site, shall be stored in an area approved by the Employer's Agent. This area shall be indicated on the Method Statement for the Layout and Preparation of the Contractor's Camp. The storage area shall be constructed with an appropriate base, bunding and sump to the satisfaction of the Employer's Agent. A Method Statement shall be provided in this regard.

When heating bitumen products, the Contractor shall take cognisance of appropriate fire risk controls. Heating shall only be undertaken using LPG or similar zero emission fuels. Appropriate fire fighting equipment shall be readily available on Site.

E5.18 Dust

The Contractors shall be solely responsible, at his cost, for the control of dust arising from his activities on Site, and for any costs involved in damages resulting from the dust. The Contractor shall take all reasonable measures to minimise the generation of dust

E5.19 Contractor's advertising signage

Any advertising on the Site or any part of the Works shall remain at the sole discretion of the Employer, who reserves the right to order, via the Employer's Agent, its removal, covering or re-sizing, wherever placed, at no cost to the Employer.

Apart from at the Contractor's camp, no signage advertising the Contractor, or any of its subcontractors, manufacturers, suppliers or service providers shall be placed, fixed or erected anywhere on the Site or on the Works without the prior approval of the Employer's Agent. No advertising signage will be permitted on any designated scenic route. Notwithstanding any prior approval given, the Employer's Agent may instruct the Contractor to remove, cover or re-size any advertising signage at any time at no cost to the Employer.

Advertising signage at the Contractor's camp shall be appropriately designed and sized with due consideration to the surrounding environment, views and sight lines.

Branding or identification markings on the Contractor's and subcontractor's vehicles and equipment is generally permitted, although the Employer reserves the right to instruct, via the Employer's Agent, the removal, covering or re-sizing of any branding, markings or signage, on any equipment (scaffolding, for example), which it considers inappropriate in the environment in which it is placed.

No third party advertising (that is, in respect of any person, business or product that is not associated with the Works) shall be permitted anywhere on the Site or Works.

E5.20 Clearance of Site on completion

On completion of the Works, and at final completion when all defects have been remedied or corrected, the Contractor shall, in addition to the requirements for clearance of the Site in terms of the Contract, ensure that he has complied with the following requirements in terms of this EM Specification:

E5.20.1 Clause E3.1

Clean-up of improperly secured transported materials, and rehabilitation of storage areas.

E5.20.2 Clause E4.1.3

Remediation of hydrocarbon spill and leak areas.

E5.20.3 Clause E4.4

Disposal of litter, refuse and Contractor's waste.

E5.20.4 Clause E5.4

Removal of temporary fences and Contractor's camp.

E5.20.5 Clause E5.5

Repair of access roads damaged by the Contractor, and rehabilitation of temporary access routes.

E5.20.6 Clause E5.7

Rehabilitation of burnt areas should a fire be the result of Contractor's activities on Site.

E5.20.7 Clauses E5.11 to 5.13

Rehabilitation of heritage and natural features, including vegetation which is damaged or disturbed, which required protection in terms of these clauses.

E5.20.8 Clause E5.14

Rectification where erosion and/or sedimentation has occurred due to the fault of the Contractor .

E5.20.9 Clause E5.19

Removal of Contractor's advertising signage.

E6 TOLERANCES

E6.1 Fines

Environmental management is concerned not only with the final results of the Contractor's operations, but also with the control of how these operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product, but also to the standard of the day-to-day operations required to complete the Works.

It is thus required that the Contractor shall comply with the EM Specification on an on-going basis and any failure on his part to do so will entitle the Employer's Agent to certify the imposition of a fine. Fines may be issued per incident at the discretion of the Employer's Agent. Such fines will be issued in addition to any remedial costs incurred as a result of non-compliance with the environmental specifications. The Employer's Agent will inform the Contractor of the contravention and the amount of the fine, and will deduct the amount from monies due in payment certificates issued under the Contract.

Maximum fines for the following transgressions by either the Contractor and/or his sub-contractors may be imposed by the Employer's Agent, as follows:

	Maximum fine per incident
a) Vehicles, plant or materials related to the Contractor's operations, parked or stored outside the demarcated boundaries of the Site.	R 2 000
b) Persons, vehicles, plant or materials related to the Contractor's operations, found within the designated boundaries of a "no go" area.	R 4 000
c) Persistent and unrepaired oil leaks from machinery/not using a drip tray to collect waste oil and other lubricants/not using specified absorbent material to encapsulate hydrocarbon spillage/using inappropriate methods of refuelling (the use of a funnel rather than a pump).	R 3 000
d) Refuelling in areas not approved by the Employer's Agent.	R 3 000
e) Litter on Site.	R 1 000
f) Deliberate lighting of fires on Site.	R 5 000
g) Individual not making use of the Site ablution facilities.	R 1 000
h) Damage to trees not specified to be removed.	R 5 000
i) Dust or excessive noise emanating from the site	R 1 000
j) Not containing water contaminated with pollutants such as cement, concrete, fuel, etc.	R 2 000

For each subsequent similar offence the fine shall be doubled in value to a maximum value of R50 000.

E7 TESTING

Not applicable to this tender.

E8 MEASUREMENT AND PAYMENT

E8.1 Basic principles

Except where separate pay items have been measured in the Bills of Quantities, all costs in respect of complying with the EM Specification are deemed to be covered by the sum tendered for complying with the EM Specification.

ANNEXURE A: ENVIRONMENTAL METHOD STATEMENT

CONTRACT:.....

DATE:.....

PROPOSED ACTIVITY (give title of method statement and reference number from the EMP):

WHAT WORK IS TO BE UNDERTAKEN (give a brief description of the works - attach extra information to ensure accurate description given):

WHERE THE WORKS ARE TO BE UNDERTAKEN (where possible, provide an annotated plan and a full description of the extent of the works):

START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:

Start Date:

End Date:

HOW THE WORKS ARE TO BE UNDERTAKEN (provide as much detail as possible, including annotated sketches and plans where possible):



Note: please give too much information rather than too little. Please ensure that issues such as emergency procedures, hydrocarbon management, wastewater management, access, individual responsibilities, materials, plant used, maintenance of plant, protection of natural features, etc. are covered where relevant

DECLARATIONS

1) EMPLOYER'S AGENT'S REPRESENTATIVE/ENVIRONMENTAL OFFICER/ENVIRONMENTAL CONTROL OFFICER

The work described in this Method Statement, if carried out according to the methodology described, appears to be satisfactorily mitigated to prevent avoidable environmental harm:

(signed)

(print name)

Dated: _____

2) CONTRACTOR

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the Employer's Agent's Representative/Environmental Officer/Environmental Control Officer will audit my compliance with the contents of this Method Statement. I understand that this method statement does not absolve me from any of my obligations or responsibilities in terms of the Contract.

(signed)

(print name)

Dated: _____

3) EMPLOYER'S AGENT

The works described in this Method Statement are approved.

(signed)

(print name)

(designation)

Dated: _____

ANNEXURE B: ENVIRONMENTAL SITE INSPECTION CHECKLIST

To be submitted to the Employer’s Agent once a week

CONTRACT:.....
















DATE:.....

ENVIRONMENTAL ASPECT	YES/ NO (✓ or X)	COMMENTS
• All new personnel on Site are aware of the contents of the EMP and have been through the environmental awareness course.		
• Contractor’s camp is neat and tidy and the labourers’ facilities are of an acceptable standard.		
• Sufficient and appropriate fire fighting equipment is visible and readily available in the appropriate places.		
• Waste control and removal system is being maintained.		
• Fences are being maintained.		
• Drip trays are being utilised where there is a risk of spillage.		
• Bunded areas/drip trays are being emptied on a regular basis (especially after rain).		
• No leaks are visible from construction vehicles.		
• Refuelling of vehicles and plant occurs within designated areas, and appropriate refuelling apparatus and drip trays are being used.		
• “No go” areas, natural features, vegetation, etc. have not been damaged.		
• Dust control measures (if necessary) are in place and are effectively controlling dust.		
• Noise control measures (if necessary) are in place and are working effectively.		
• Erosion and sedimentation control measures (if necessary) are in place and are controlling effectively.		
• Material stockpiles are located within the boundary of the Site and are protected from erosion.		
• Other		

Completed by:.....

Signed:.....

ANNEXURE C: CONSTRUCTION PERSONNEL INFORMATION POSTER

ENVIRONMENTAL MANAGEMENT DO'S AND DON'TS	
 <p>Workers & equipment must stay inside the site boundaries at all times</p>	 <p>Use the toilets provided Report full or leaking toilets</p>
 <p>Do not swim in or drink from streams Do not throw oil, petrol, diesel, concrete or rubbish in the stream Do not work in the stream without direct instruction Do not damage the banks or vegetation of the stream</p>	 <p>Only eat in demarcated eating areas Never eat near a river or stream Put packaging & leftover food into rubbish bins</p>
 <p>Protect animals on the site Ask your supervisor or Contract's Manager to remove animals found on site</p>	 <p>Do not litter - put all rubbish (especially cement bags) into the bins provided Report full bins to your supervisor The responsible person should empty bins regularly</p>
 <p>Do not damage or cut down any trees or plants without permission Do not pick flowers</p>	 <p>Always keep to the speed limit Drivers - check & report leaks Ensure loads are secure & do not spill</p>
 <p>Put cigarette butts in a rubbish bin Do not smoke near gas, paints or petrol Do not light any fires without permission Know the positions of fire fighting equipment Report all fires Do not burn rubbish or vegetation without permission</p>	 <p>Know all the emergency phone numbers</p>
 <p>Work with petrol, oil & diesel in areas marked for this Report any petrol, oil & diesel leaks or spills Use a drip tray under vehicles & machinery Empty drip trays after rain & do not throw this water into a river</p>	 <p>Fines of between R1000 and R5000 Removal from site Construction may be stopped</p>
 <p>Try to avoid producing dust - wet dry ground & soil</p>	 <p>Report any breaks, floods, fires, leaks and injuries to your supervisor Ask questions!</p>
 <p>Do not make loud noises around the site, especially near schools and homes Report or repair noisy vehicles</p>	

ANNEXURE D: ADDITIONAL ENVIRONMENTAL ISSUES DEEMED TO FORM PART OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

Listed below are issues pertaining to the environment that form part of the Contract Document. The clause references relate to the **General Conditions of Contract for Construction Works, Third Edition, 2015 (GCC 2015)**. They are listed here to emphasise that they form part of the environmental considerations and requirements for this project. They must be read together with any Contract Specific Data referring thereto in Part C1.2 Contract Data. The comments made below on the various issues are to be taken as explanatory, in so far as environmental matters are concerned, and do not modify the clauses in any way.

1. Monitoring

Clause 3.1.1 makes provision for the Employer's Agent to administer the Contract in accordance with the provisions of the Contract, including the monitoring of any environmental variables.

2. Health and safety

Clauses 3.1.4, 4.3.1, 4.3.2 and 4.10.1 remind the Contractor of his obligations in terms of the Occupational Health and Safety Act (No. 85 of 1993) and Construction Regulations 2003.

Clause 5.7 of SANS 1200A reinforces these requirements through the observation of proper and adequate safety arrangements.

3. Employer's Agent's authority to delegate

Clause 3.2.4 gives the Employer's Agent the authority to appoint a representative to act as the Environmental Officer (EO) for the Contract. The EO, who shall be responsible for monitoring compliance with the EMP, may be the Employer's Agent's Representative or any other person accountable to the Employer's Agent.

4. Employer's Agent's instructions

Clause 4.2.1 requires that the Contractor comply with the Employer's Agent's instructions on any matter relating to the Works. Moreover, Clause 4.2.2 ensures that the Contractor only takes instructions from the Employer's Agent, the Employer's Agent's Representative or a person authorised by the Employer's Agent in terms of Clause 3.2.4.

5. Compliance with applicable laws

Clause 4.3.1 requires that the Contractor comply with all applicable laws, regulations, etc. in fulfilling the Contract.

6. Protection of fossils, etc.

Clause 4.7.1 requires the Contractor to take reasonable precautions to prevent any person from damaging, *inter alia* anything of geological or archaeological interest, and requires that he inform the Employer's Agent and follows any instructions issued in this regard.

7. Housing, food and transport

Clause 4.10.1 requires the Contractor to make his own arrangements for payment, housing, feeding and transport for his employees, provided that if he uses any part of the Site for such purposes he shall obtain the Employer's Agent's prior approval.

Clause 4.2 of SANS 1200A further requires that facilities provided comply with local authority regulations and are maintained in a clean and sanitary condition.

8. Competent employees

Clause 4.11.1 requires that all persons employed on Site are careful, competent, and efficient. These attributes embrace knowledge of the environmental matters and issues dealt with in the EMP.

9. Removal from Site

Clause 4.11.2 makes provision for the Employer's Agent to instruct the removal from the Works and Site of any person who is guilty of misconduct, or is incompetent or negligent, or is an undesirable presence on Site.

Clause 7.1.1 requires that all Construction Equipment be in good working order. Accordingly, the Employer's Agent may order that any Construction Equipment not complying with the environmental specifications be removed from Site.

10. Unacceptable documentation

Clauses 5.3.1 and 5.3.2 require the Contractor to provide documentation required before commencement with Works execution, failing which the Employer may terminate the Contract. Such documentation includes the Protection of the Environment Declaration provided for in the Contract Document.

11. Programme and Method Statements

Clause 5.6.1 makes provision for the Employer's Agent to request the programmes for carrying out the Works.

Clause 5.6.2 makes provision for the Employer's Agent to request statements from the Contractor for the entire scope of the work. In the case of the environmental specifications, these would be submitted as Method Statements.

12. Hours of operation

Clause 5.8.1 restricts the Contractors hours of operation to between sunrise and sunset on working days (usually from Monday to Saturday), unless, *inter alia*, permitted by the Employer's Agent in writing.

Clause 5.7.2 further requires that in the event that permission is granted for night work, then such work shall be carried out without excessive noise and disturbance.

13. Suspension of Works

Clause 5.11.1 enables the Employer's Agent to suspend the progress of the Works or any part thereof, which may be as a result of some default or breach of the Contract on the part of the Contractor.

14. Site clean-up

Clause 5.15.1 requires that, on completion of the Works, the Contractor shall clear away and remove from the Site all Construction Equipment, surplus materials, rubbish and Temporary Works of every kind and leave the whole of the Site and Works clean and in a safe condition. All streams and watercourses shall be restored to the condition as at the commencement of the Works. Should the Contractor fail to do the work upon notice from the Employer's Agent, the Employer may in terms of Clause 7.8.3, employ others to carry out the work and recover the cost of doing so from the Contractor.

15. Access to the Works

Clause 7.3.1 makes provision for the Employer's Agent to authorise the Environmental Officer (EO) to have access to the Works and Site.

16. Pollution prevention and interferences

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary noise or pollution, or to interfere unnecessarily or improperly with public services, or the access to, use and occupation of public or private roads and footpaths or properties.

Clause 5.6 of SANS 1200A further requires the Contractor to minimise dust nuisance and pollution of streams and inconvenience to or interference with the public.

17. Dust

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary pollution.

Clause 5.6 of SANS 1200A requires that the Contractor take all reasonable measures to minimise any dust nuisance.

18. Noise

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary noise.

Clause 4.1 of SANS 1200A requires that when working in built-up areas, the Contractor shall provide and use suitable and effective silencing devices for pneumatic tools and other plant that would otherwise cause a noise level exceeding 85dB.

19. Protection of existing environment

Clause 8.1.3 requires that the Contractor uses every reasonable means to prevent any roads or bridges to or in the vicinity of the Site being subjected to damage by excessive loads, or disruption due to excessive traffic, occasioned by his transport arrangements.

20. Reinstatement

Clauses 8.2 and 8.4 make provision for the Contractor to repair and make good any damage to the Works in his care (other than "excepted risks"), and bear any costs associated with such reinstatement.

21. Reporting accidents

Clause 8.5.1 requires the Contractor to report to the Employer's Agent every occurrence on the Site which causes environmental damage.

H: HEALTH AND SAFETY SPECIFICATION

CONTENTS

H1 DEFINITIONS

H2 SCOPE

H3 INTERPRETATION

H4 GENERAL REQUIREMENTS

H5 ADMINISTRATION

- H5.1 Application for construction work permit
- H5.2 Notification of intention to commence construction work
- H5.3 Occupational Health and Safety Agreement
- H5.4 Good standing with the Compensation Fund or a licensed compensation insurer
- H5.5 Emergency procedures
- H5.6 Health and safety file
- H5.7 Health and safety committee
- H5.8 Inspections, formal enquires and incidents
- H5.9 Personal protective equipment and clothing

H6 APPOINTMENTS

- H6.1 Appointment of construction manager
- H6.2 Appointment of construction supervisor, and health and safety officers
- H6.3 Other competent persons
- H6.4 Health and safety representative(s)

H7 EMPLOYER'S HEALTH AND SAFETY AGENT

H8 CREATING AND MAINTAINING A SAFE AND HEALTHY WORK ENVIRONMENT

- H8.1 General
- H8.2 Risk assessment
- H8.3 Health and safety plans
- H8.4 Responsibilities towards employees and visitors
- H8.5 Subcontractors
- H8.6 Work permits and wayleaves
- H8.7 Access to the Site
- H8.8 First aid and emergency procedures
- H8.9 Housekeeping
- H8.10 Fire precautions
- H8.11 Facilities for workers

H9 GENERAL HAZARDS AND RISKS APPLICABLE TO WORK REQUIRED IN TERMS OF THIS TERM TENDER

- H9.1 Existing Site conditions
- H9.2 Information provided by the designer (CR 6(1))
- H9.3 Environmental hazards
- H9.4 Traffic hazards
- H9.5 Construction materials (hazardous substances)
- H9.6 Fall protection (working at heights) (CR 10)
- H9.7 Structures (CR 11)
- H9.8 Temporary works (CR 12)
- H9.9 Excavation work (CR 13)
- H9.10 Demolition work (CR 14)
- H9.11 Tunneling (CR 15)
- H9.12 Scaffolding (CR 16)
- H9.13 Suspended platforms (CR 17)
- H9.14 Rope access work (CR 18)
- H9.15 Material hoists (CR 19)
- H9.16 Bulk mixing plant (CR 20)
- H9.17 Explosive actuated fastening device (CR 21)

- H9.18 Cranes (CR 22)
- H9.19 Construction vehicles and mobile plant (equipment) (CR 23)
- H9.20 Electrical installations and machinery (CR 24)
- H9.21 Flammable liquids (CR 25)
- H9.22 Water environments (CR 26)
- H9.23 Overhead work (CR 27(g))
- H9.24 Confined spaces
- H9.25 Other hazards...

H: HEALTH AND SAFETY SPECIFICATION

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

H1 DEFINITIONS

For the purposes of this Specification, the definitions given in the Occupational Health and Safety Act, 85 of 1993 and the Construction Regulations, 2014, and the following definitions, shall apply:

- a) "Construction Regulations, 2014" means the Construction Regulations (GNR. 84 of 7 February 2014) published in terms of the OHS Act.
- b) "Contractor" means the Principal Contractor as defined in the Construction Regulations, 2014.
- c) "Employer" means the Client or his agent as defined in the Construction Regulations, 2014.
- d) "Employer's Agent" means the person/firm so named in the Contract Data whose function is to administer the Contract as agent of the Employer, acting through, if appointed, a Health and Safety Agent.
- e) "OHS Act" means the Occupational Health and Safety Act, 85 of 1993.
- f) "subcontractor" means any contractor employed by the Contractor to perform construction work.

H2 SCOPE

In terms of the OHS Act and the Construction Regulations, 2014 the Employer must provide the Contractor with a Health and Safety Specification, to which the Contractor must respond with a Health and Safety Plan for approval by the Employer.

The purpose of this Specification is to ensure that a contractor entering into a contract with the Employer maintains an acceptable level of compliance with regard to health and safety issues during the performance of the Contract. In this regard the Health and Safety Specification forms an integral part of the Contract and the Contractor shall ensure that his subcontractors and/or suppliers comply with the requirements of this Specification.

H3 INTERPRETATION

The OHS Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this Specification.

Responsibility for health and safety relating to the Works lies with the Contractor as described in this Specification. Nothing stated in or omitted from this Specification shall in any way limit the Contractor's obligations and liabilities in terms of the OHS Act.

H4 GENERAL REQUIREMENTS

The Contractor shall:

- a) create and maintain a safe and healthy work environment;
- b) execute the Works in a manner that complies with all the requirements of the OHS Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring; and
- c) respond to the instructions issued by the Employer's Agent through the Employer's Agent's Representative, except in the case of a health and safety issue which requires the Contractor's immediate attention, in which case the Employer's Health and Safety Agent can issue an instruction directly to the Contractor.

H5 ADMINISTRATION

H5.1 Application for construction work permit

Not applicable until 7 August 2015.

H5.2 Notification of intention to commence construction work

The Contractor shall notify the Provincial Director of the Department of Labour in writing using the pro forma contained in Annexure 2 of the Construction Regulations, 2014 before construction work commences, and retain a copy of such notification in the health and safety file, if such work will:

- a) include excavation work;
- b) include working at a height where there is a risk of falling;
- c) include the demolition of a structure; or
- d) include the use of explosives to perform construction work.

The Contractor shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

The Contractor shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

H5.3 Occupational Health and Safety Agreement

The Contractor shall enter into an Agreement with the Employer before the commencement of the Works on Site.

H5.4 Good standing with the Compensation Fund or a licensed compensation insurer

The Contractor shall provide the Employer's Agent with a letter of good standing from the Compensation Commissioner or a licensed compensation insurer before the commencement of the Works on Site.

H5.5 Emergency procedures

The Contractor shall submit for acceptance to the Employer's Agent a health and safety emergency procedure, which includes but is not limited to fire, spills, accidents and exposure to hazardous substances, which:

- a) identifies the key personnel who are to be notified of any emergency;
- b) sets out details of available emergency services, including contact particulars; and
- c) the actions or steps which are to be taken during an emergency.

The Contractor shall within 24 hours of an emergency taking place notify the Employer's Agent in writing of the emergency and briefly outline what happened and how it was dealt with.

H5.6 Health and safety file

The Contractor shall ensure that a Health and Safety file, which shall include all documentation required in terms of the provisions of the OHS Act, the Construction Regulations, 2014 and this Health and Safety Specification, is open and kept on Site at all times.

The Health and Safety file shall be made available for inspection by any inspector, subcontractor, the Employer, the Employer's Agent, the Employer's Health and Safety Agent, or employee of the Contractor, upon the request of such persons.

The Contractor shall hand over the Health and Safety file to the Employer's Agent upon Works completion of the Contract and, if applicable, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations, 1992.

H5.7 Health and safety committee

Where applicable, the Contractor shall establish a health and safety committee, and shall convene health and safety meetings as provided for in the OHS Act.

The Employer's Agent or the Employer's Health and Safety Agent shall be invited to attend such

meetings as an observer.

The Contractor shall ensure that minutes of the health and safety committee meetings are kept.

H5.8 Inspections, formal enquires and incidents

The Contractor shall inform the Employer's Agent:

- a) beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident (as defined in the OHS Act) on the Site.

The Contractor shall record all incidents and notify the Employer's Agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incident to an inspector as designated in terms of the OHS Act.

The Contractor shall investigate all incidents and issue the Employer's Agent with copies of such investigations.

H5.9 Personal protective equipment and clothing

The Contractor shall ensure that all workers are issued with the necessary personal protective clothing.

H6 APPOINTMENTS

H6.1 Appointment of construction manager

The Contractor shall, prior to commencing the Works on Site, appoint a full-time competent person as the construction manager, with the duty of managing all construction work on a single site, including the duty of ensuring occupational health and safety compliance. In the absence of the construction manager an alternative must be appointed by the Contractor.

The Contractor may, having considered the size of the project, appoint, in writing, one or more assistant construction managers for different sections thereof.

No construction manager may manage any construction work on or in any construction site other than the Site in respect of which he or she has been appointed.

H6.2 Appointment of construction supervisor, and health and safety officers

The construction manager shall appoint a competent employee(s) in writing as the construction supervisor(s) for the Site, who will be responsible for construction activities and ensuring occupational health and safety compliance on the construction site. The Contractor may, having considered the size of the project, appoint, in writing, one or more competent employees to assist the appointed construction supervisor(s).

The Contractor may, having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the Site, appoint a full-time or part-time construction health and safety officer in writing, who has in the Contractor's opinion the necessary competencies and resources, to assist the Contractor in the control of all health and safety related aspects on the Site.

The Contractor shall compile and maintain an organogram which outlines the roles and responsibilities of the construction supervisor's assistants, and health and safety officers.

H6.3 Other competent persons

The Contractor shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

- a) temporary works operations;
- b) excavation work;
- c) demolition work;
- d) scaffolding work operations;
- e) suspended platform work operations;
- f) rope access work;
- g) material hoists;
- h) operation of bulk mixing plant;

- i) explosive activated fastening device;
- j) cranes;
- k) construction vehicles and mobile plant (equipment);
- l) the stacking and storage of articles on the Site; and
- m) fire equipment.

The Contractor shall appoint in writing competent persons to:

- n) induct employees in health and safety; and
- o) prepare a fall protection plan.

H6.4 Health and safety representative(s)

The Contractor shall appoint in writing, if necessary in terms of the OHS Act, a health and safety employee representative(s), whose duties shall be as described in the OHS Act.

H7 EMPLOYER'S HEALTH AND SAFETY AGENT

The Employer's Health and Safety Agent shall:

- a) audit the Contractor's compliance with the requirements of this Specification prior to the commencement of any physical construction activities on the Site;
- b) accept or reject all safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;
- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this Specification and the Contractor's health and safety plan; and
- e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, any notices and/or instructions to the Contractor or any of the Contractor's subcontractors with a copy to the Employer's Agent and, where relevant, to the Contractor.

The Contractor shall invite the Employer's Health and Safety Agent to audit compliance with the requirements of this Specification before commencing with any new construction activity on the Site.

The Contractor shall permit the Employer's Health and Safety Agent to audit the Contractor's compliance with the approved Health and Safety Plan, and shall provide any assistance and/or documentation as may be required in this regard.

H8 CREATING AND MAINTAINING A SAFE AND HEALTHY WORK ENVIRONMENT

H8.1 General

The Contractor shall with respect to the Site and the construction works that are contemplated:

- a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;
- b) evaluate the risks associated with such work constituting a hazard to the health and safety of such employees and the steps that need to be taken to comply with the OHS Act; and
- c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

The Contractor shall ensure that:

- d) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- e) no structure or part of a structure is loaded in a manner which would render it unsafe;
- f) relevant information, if any, provided by the designer of the structure is taken into account in the risk assessment; and
- g) the designer of any temporary works complies with the requirements of regulation 6(2) of Construction Regulations, 2014.

The Contractor shall carry out regular inspections and audits to ensure that the Works are being performed in accordance with the requirements of this Specification and the Contractor's health and safety plan

H8.2 Risk assessment

The Contractor shall before the commencement of any construction work on Site and during such

construction work, cause risk assessment(s) to be performed by a competent person appointed in writing. Such assessment(s) shall as a minimum:

- a) identify the risks and hazards to which persons may be exposed to;
- b) analyse and evaluate the identified risks and hazards based on a documented method;
- c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic "toolbox talks" or inductions before undertaking hazardous work, in order to mitigate, reduce or control the risks and hazards that have been identified;
- d) provide a monitoring plan; and
- e) provide a review plan.

The Contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

The Contractor must review the relevant risk assessment -

- f) where changes are effected to the design and or construction that result in a change to the risk profile; or
- g) when an incident has occurred.

H8.3 Health and safety plans

The Contractor shall prior to commencing the Works to which this Specification applies, submit to the Employer's Health and Safety Agent for approval a suitable and sufficiently documented health and safety plan, based on this Specification and the risk assessment that is conducted.

The health and safety plan shall include, but not be limited to, the following:

- a) The safety management structure, including the names of all designated persons such as the construction supervisor and any other competent persons;
- b) Safety method statements and procedures to be adopted to ensure compliance with the OHS Act; Construction Regulations, 2014 and this Health and Safety Specification;
- c) The provision and use of temporary services;
- d) Personal protective equipment, devices and clothing required;
- e) Emergency procedures;
- f) Provision of workers' welfare facilities;
- g) Induction and training;
- h) Arrangements for monitoring and control to ensure compliance with the safety plan; and
- i) Provision and maintenance of the health and safety file and all other relevant documentation.

The Contractor shall provide each subcontractor with the sections of this Health and Safety Specification pertaining to the construction work to be performed by that subcontractor. The subcontractor shall provide the Contractor with a health and safety plan pertaining to his work, for incorporation into the Contractor's health and safety plan.

The Contractor shall discuss the submitted health and safety plan with the Employer's Health and Safety Agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

The Contractor shall apply the approved health and safety plan from the date of its approval and for the duration of the Works to which this Specification applies.

The Contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the Employer's Health and Safety Agent, but at least once every month.

The Contractor shall update the health and safety plan whenever changes to the Works are brought about.

H8.4 Responsibilities towards employees and visitors

The Contractor shall, as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards or safe work procedures.

The Contractor shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Contractor shall cause a record of all induction training to be kept, which indicates the names, identity numbers and job description of all those who attended such training.

The Contractor shall not allow or permit any employee to enter the Site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the Site at the time of entry.

The Contractor shall ensure that all of his employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner on the prescribed form.

The Contractor shall ensure that each visitor to the Site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

- a) undergoes health and safety instruction pertaining to the hazards prevalent on the Site; and
- b) is in possession of and using the necessary personal protective equipment.

The Contractor shall cause a record of all induction training to be kept in the Health and Safety file.

The Contractor shall provide suitable on-site signage to alert workers and visitors to health and safety hazards and requirements. Such signage shall include but not be limited to:

- c) prohibited unauthorized entrance;
- d) signage to indicate what personal protective equipment is to be worn; and
- e) activity related signs.

The Contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

H8.5 Subcontractors

The Contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the subcontract.

The Contractor shall ensure that all of his obligations in respect of subcontractors in terms of the Construction Regulations, 2014 are adhered to.

H8.6 Work permits and wayleaves

The Contractor shall be responsible for obtaining all the wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall abide by the safety conditions imposed by such wayleaves, permissions or permits.

H8.7 Access to the Site

The Contractor shall ensure that access to the Site is strictly controlled and that, where possible, only authorised persons are permitted onto the Site.

The Contractor shall control the access to Site of his own personnel and equipment, and that of his subcontractors and suppliers, in such a way so as to ensure that the safety of all public pedestrian and vehicular traffic is not compromised.

H8.9 First aid and emergency procedures

The Contractor shall, where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace, which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment.

The Contractor shall ensure, where there are more than 10 employees employed on the Site, that for every group of up to 50 employees at that workplace at least one person is readily available during normal working hours who is in possession of a valid certificate of competency in first aid.

The following information shall be conspicuously posted in the offices of the Contractor for the duration of the Contract:

- a) Telephone numbers of emergency services;
- b) The names of all safety representatives and safety officers; and
- c) The name(s) of the competent first aider(s).

The Contractor shall post, in prominent places, notices indicating where the first aid box(es) is/are kept, as well as the name of the person in charge of the first aid box.

H8.10 Housekeeping

The Contractor shall ensure, *inter alia*, that suitable housekeeping is continuously implemented on the Site, including provision for the:

- a) removal of scrap, waste and debris, and materials which are no longer required for use, at appropriate intervals (in accordance with Construction Regulation 27); and
- b) proper stacking and storage of materials and equipment (in accordance with Construction Regulations 27 and 28).

H8.11 Fire precautions

The Contractor shall ensure that all appropriate measures are taken to minimise the risk of fire and that appropriate procedures and equipment are in place to deal with the event of a fire, all in accordance with Construction Regulation 29 and the Environmental Management Specification in Part C3.5 of the Scope of Work.

H8.12 Facilities for workers

The Contractor shall provide ablution facilities and eating areas all as specified in the Environmental Management Specification in Part C3.5 of the Scope of Work.

H9 GENERAL HAZARDS AND RISKS APPLICABLE TO WORK REQUIRED IN TERMS OF THIS TERM TENDER

H9.1 Existing Site conditions

H9.2 Information provided by the designer (CR 6(1))

H9.3 Environmental hazards

H9.4 Traffic hazards

H9.5 Construction materials (hazardous substances)

H9.6 Fall protection (working at heights) (CR 10)

H9.7 Structures (CR 11)

H9.8 Temporary works (CR 12)

H9.9 Excavation work (CR 13)

H9.10 Demolition work (CR 14)

- H9.11 Tunneling (CR 15)
- H9.12 Scaffolding (CR 16)
- H9.13 Suspended platforms (CR 17)
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- H9.18 Cranes (CR 22)
- H9.19 Construction vehicles and mobile plant (equipment) (CR 23)
- H9.20 Electrical installations and machinery (CR 24)
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- H9.23 Overhead Work (CR 27(g))
- H9.24 Confined spaces
- H9.25 Other hazards...

CITY OF CAPE TOWN

TRANSPORT: ROADS INFRASTRUCTURE AND MANAGEMENT

CONTRACT NO. 35Q/2021/22

FRAMEWORK AGREEMENT TENDER FOR THE PROVISION OF ROAD MARKING SERVICES IN THE CITY OF CAPE TOWN

C3.6 Annexes

CONTENTS

Annex 1: Monthly Project Labour Report

Annex 2: B-BBEE Sub-Contract Expenditure Report

Annex 3: Joint Venture Expenditure Report

Annex 4: Targeted Labour Contract Participation Expenditure Report

Annex 5: Targeted Enterprises Contract Participation Expenditure Report

ANNEX 1

**CITY OF CAPE TOWN
MONTHLY PROJECT LABOUR REPORT**



CITY OF CAPE TOWN
ISIXEKO SASERKAPA
STAD KAAPSTAD

Instructions for completing and submitting forms

General

- 1 The Monthly Project Labour Reports must be completed in full, using typed, proper case characters; alternatively, should a computer not be available, handwritten in black ink.
 - 2 Incomplete / incorrect / illegible forms will not be accepted.
 - 3 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted out services or works) shall apply to the completion and submission of these forms.
 - 4 This document is available in Microsoft Excel format upon request from the City's EPWP office, tel 021 400 9406, email EPWPLR@capetown.gov.za.
- Project Details
- 5 If a field is not applicable insert the letters: NA
 - 6 Only the Project Number supplied by the Corporate EPWP Office must be inserted.
The Project Number can be obtained from the Coordinator or Project Manager or from the e-mail address in point 4 above.
 - 7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.
- Beneficiary Details and Work Information
- 8 Care must be taken to ensure that beneficiary details correspond accurately with the beneficiary's ID document.
- 9 A new beneficiary is one in respect of which a new employment contract is signed in the current month. A certified ID copy must accompany this labour report on submission.
 - 10 Was the beneficiary sourced from the City's job seeker database?
 - 11 The contract end date as stated in the beneficiary's employment contract.
 - 12 Where a beneficiary has not worked in a particular month, the beneficiary's name shall not be reflected on this form at all for the month in question.
 - 13 Training will be recorded separately from normal working days and together shall not exceed the maximum of 23 days per month
 - 14 Workers earning more than the maximum daily rate (currently R450 excluding any benefits) shall not be reflected on this form at all.
- Submission of Forms
- 15 Signed hardcopy forms must be scanned and submitted to the City's project manager in electronic (.pdf) format, together with the completed form in Microsoft Excel format.
 - 16 Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and ID documents are only required in respect of new beneficiaries.
 - 17 If a computer is not available hardcopy forms and supporting documentation will be accepted.

PROJECT DETAILS

Numbers in cells below e.g (6) refer to the relevant instruction above for completing and submitting forms

CONTRACT OR WORKS												
PROJECT NAME: (6)												
EPWP SUPPLIED												
PROJECT NUMBER: (6)												
DEPARTMENT:												
CONTRACTOR OR VENDOR												
E-MAIL ADDRESS:												
CONTRACTOR OR VENDOR												
TEL. NUMBER:												
CELL WORK												
PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")												
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR

ACTUAL START DATE (yyyy/mm/dd)							ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd)						(7)
TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)													
R													

MONTHLY PROJECT LABOUR REPORT

BENEFICIARY DETAILS AND WORK INFORMATION



1	Sheet of
---	-------------

Year	Month
------	-------

CONTRACT OR WORKS PROJECT NUMBER:	
-----------------------------------	--

No.	(8) First name	(8) Surname	(8) ID number	(9) New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	(10) Job seeker database (Y/N)	Contract start date (DDMMYY)	(11) Contract end date (DDMMYY)	(12) No. days worked this month (excl. training)	(13) Training days	(14) Rate of pay per day (R - c)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Declared by Contractor or Vendor to be true and correct:	Name	Signature
	Date	

Received by Employer's Agent / Representative:	Name	Signature
	Date	

0 R

CONTRACT NO. AND NAME:

CONTRACTOR:

B-BBEE SUB-CONTRACT EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P*)	R	B-BBEE Status Level of Prime Contractor	
--	---	---	--

Name of Sub-contractor (list all)	B-BBEE Status Level of Sub-contractor ¹	Total value of Sub-contract (excl. VAT) ¹	Value of Sub-contract work to date (excl. VAT) ¹	Value of Sub-contract work to Sub-contractors with a lower B-BBEE Status Level than Prime Contractor
Sub-contractor A		R	R	R
Sub-contractor B		R	R	R
Sub-contractor C		R	R	R
Total:				R
Expressed as a percentage of P*				%

¹Documentary evidence to be provided

Signatures

Declared by Contractor to be true and correct:

Date:

Verified by Employer's Agent / Representative:

Date:

ANNEX 3

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

JOINT VENTURE EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P*)		B-BBEE Status Level of Joint Venture			
R		R			
Name of Joint Venture partner (list all)	B-BBEE Status Level of each JV partner as at contract award	Percentage contribution of JV partner per JV Agreement ¹ A	Total value of JV partner's contribution (excl. VAT) ¹ B = A% x P*	Value of JV partner's contribution to date (excl. VAT) ¹ C	Value of JV partner's contribution as a percentage of the work executed to date D = C/P* x 100
JV Partner A		%	R	R	%
JV Partner B		%	R	R	%
JV Partner C		%	R	R	%

¹Documentary evidence to be provided

Signatures

Declared by Contractor to be true and correct:

Date:

Verified by Employer's Agent / Representative

Date:

ANNEX 4

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

TARGETED LABOUR CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule)	R	Specified Targeted Labour Contract Participation Goal	%
---	---	---	---

Name of Contractor/Sub-contractor (list all)	Total previous expenditure on wages in respect of targeted labour	Net Amount for this month ¹	Total expenditure on wages in respect of targeted labour
Contractor	R	R	R
Sub-contractor A	R	R	R
Sub-contractor B	R	R	R

¹ Documentary evidence to be provided			Total: R
			Expressed as a percentage of P*
			%

Signatures

Declared by Contractor to be true and correct:

Date

Verified by Employer's Agent / Representative

Date

ANNEX 5

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

TARGETED ENTERPRISES CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule)		Specified Targeted Enterprises Contract Participation Goal	
R		%	
Name of targeted enterprise (list all)	Total previous expenditure (excl. VAT) to targeted enterprises	Net Amount for this month ¹	Total expenditure (excl. VAT) to targeted enterprises
Targeted Enterprise A	R	R	R
Targeted Enterprise B	R	R	R
Targeted Enterprise C	R	R	R
Total:			R
Documentary evidence to be provided			Expressed as a percentage of P*
			%

Signatures

Declared by Contractor to be true and correct:

Verified by Employer's Agent/
Employer's Agent's Representative:

Date

Date

Part C4: Site information

	Pages
C4 Site information	203

CITY OF CAPE TOWN

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C4 Site Information

CONTENTS

1. GENERAL
2. WORKS PROJECTS

1. GENERAL

The sites for the Works are those areas which may be identified within the City of Cape Town municipal area in which Works Projects are to be executed. The sites will be specific sections of roads needing road marking.

2. WORKS PROJECTS

Site specific information will be specified, as required, in the Works Project contract document for a particular Works Project. An example of such a Works Project Document is available upon request to the Employer.