

NAMA KHOI MUNICIPALITY

OKIEP VAALHOEK SEWER RETICULATION NETWORK

PROJECT REF NO.: BID/NC062/12/2024-2025

PART C3 : SCOPE OF WORK

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C3.1 : DESCRIPTION OF THE WORKS

C3.1.1 EMPLOYER'S OBJECTIVES

The Employer's objectives are to upgrade the existing sewer reticulation network in Okiep by extending it to service 349 erven in the Vaalhoek area.

The project furthermore provides social and economic benefits to the local community.

The objective of the project is to provide for a minimum contract participation goal (CPG) of 5% of the total project value and to develop targeted enterprises by the main or lead partner contractors.

The successful contractor shall:

1. Subcontract a minimum of 5% of the total project value to targeted enterprises;
2. Develop the targeted enterprise/s in two development areas as specified in the Standard, and agreed by both the main contractor and the targeted enterprise/s;
3. Perform needs analysis on the targeted enterprise to identify developmental goals;
4. Provide internal mentorship support to improve the targeted enterprise/s performance;
5. Develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas;
6. Monitor and report the progress of the agreed development areas with the targeted enterprise/s; and
7. Submit a project completion report to the Employer's representative for each targeted enterprise

C3.1.2 OVERVIEW OF THE WORKS

The contract comprises of the upgrading of the existing sewer reticulation network in Okiep.

C3.1.3 EXTENT OF THE WORKS

The works entails the following:

- Construction of 12 200m x 160mm diameter uPVC sewer pipeline
- Construction of 1 430m x 110mm diameter uPVC sewer pipeline
- 349 x 110mm diameter uPVC Sewer house connections with a total length of 1 490m
- Construction of 290 manholes
- Reinstatement of pavement layers and surfacing
- Reinstatement of boundary walls and fences

C3.1.4 LOCATION OF WORKS

The sites is located in the Nama Khoi Municipal Area, NC, 7km North of Springbok.

Access to the sites is via existing main roads.

Refer to Annex A for a Locality Plan

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C3.2 : ENGINEERING

C3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Works designed by, per design stage:

Concept, feasibility and overall processEmployer

Basic Engineering and detail layout to tender stageEmployer (Engineer)

Final design to be approved for construction phaseEmployer (Engineer)

Temporary Works Contractor (Engineer)

Preparation of "as built" drawings Contractor

C3.2.2 DRAWINGS

Drawing No.	Title
MC444-C900	KEY PLAN
MC444-C901	PROPOSED SEWER LAYOUT
MC444-C902	PROPOSED SEWER LAYOUT
MC444-C903	PROPOSED SEWER LAYOUT
MC444-C904	PROPOSED SEWER LAYOUT
MC444-C905	PROPOSED SEWER LAYOUT
MC444-C906	PROPOSED SEWER LAYOUT
MC444-C907	PROPOSED SEWER LAYOUT
MC444-C908	PROPOSED SEWER LAYOUT
MC444-C909	PROPOSED SEWER LAYOUT
MC444-C910	PROPOSED SEWER LAYOUT
MC444-C911	PROPOSED SEWER LAYOUT
MC444-C920	DETAIL DRAWING

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C3.3 : PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES

C3.3.1.1 Requirements

The Preferential Procurement Regulations 2011, new reforms of 2016 and the new PPPF Regulations of 2017 pertaining to the Preferential Procurement Policy Framework Act No. 5 of 2000 will be applied during the adjudication of tenders. The method of calculation of points is set out in part T2.2-34 Schedule 21.

C3.3.2 EMPLOYMENT OF LABOUR FORCE

The maximum possible number of workers is to be employed from the local area. To this end the Contractor is required to give preference to the use of local area labour and limit the use of non-local labour to key personnel as far as practically possible.

Key personnel are defined as supervisors and skilled labourers without whom a specific task cannot be executed. As far as possible these people should impart their management and building skills to individuals within the local workforce who show a keen interest and display a willingness to learn.

Local area labour (Nama Khoi) is defined as people who reside in Okiep. Local area unskilled labour must be employed.

The minimum wages shall be the prescribed EPWP rate, as set by the applicable law of the specific jurisdiction area.

The Contractor will be required to enter into employment contracts with all labourers employed. All Workers Contracts for labourers employed during the month must accompany the Contractor's monthly report. The labourers should have a fixed job description and they must acknowledge their production requirements and responsibilities.

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C3.4 : CONSTRUCTION

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- 3.4.5 EMPLOYMENT OF SECURITY PERSONNEL
- 3.4.6 UNIVERSAL ACCESS

3.4.1. APPLICABLE STANDARDISED SPECIFICATIONS

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

The SANS 1200 Standard Specifications for Civil Engineering Construction prepared by Standards South Africa. This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za

The SANS standard Specification may be inspected, by appointment, at the offices of the Employer and the Consulting Engineers during normal office hours.

STANDARD SPECIFICATIONS

Where reference is made to the standard specifications in this contract, it shall mean the SANS 1200 standard specifications for civil Engineering Construction prepared by Standards South Africa. Amendments to the standard specifications are bound in the contract documents in Part B: Project Specifications.

Although not bound in nor issued with this document, the following standardised specifications shall form part of the contract document and shall apply:

SANS 1200 A	1986	General
SANS 1200 AB	1986	Engineers Office
SANS 1200 C	1980 (as amended 1982)	Site Clearance
SANS 1200 D	1988 (as amended 1990)	Earthworks
SANS 1200 DB	1989	Earthworks (Pipe Trenches)
SANS 1200 DM	1981	Earthworks (Road, Subgrade)
SANS 1200 G	1982	Concrete (Structural)
SANS 1200 L	1983	Medium Pressure Pipelines
SANS 1200 LB	1983	Bedding (Pipes)
SANS 1200 LD	1982	Sewers
SANS 1200 MJ	1984	Segmented Paving
SANS 1200 MK	1983	Kerbing and Channelling

3.4.2 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS

Amendments to the standard specifications are included in this Part C: 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 quantities, or the drawings, the project specifications shall take precedence.

The standard specifications, which form part of this contract, have been written to cover all phases of work normally required for civil engineering works, 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 payment item in this part of the project specifications consists of the prefix PS 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 with a PS 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.

VARIATIONS TO STANDARDIZED/PARTICULAR SPECIFICATIONS AND ADDITIONAL CLAUSES

The following variations and additions to the SANS 1200 Standardized Specifications referred to in PART A will be valid for this contract. The prefix "B A" indicates an amendment to SANS 1200 A, "B C" to SANS 1200 C, etc. The numbers following these prefixes are the relevant clause numbers in SANS 1200.

SANS 1200 A: GENERAL

PS A 1: SCOPE

Replace subclause 1.1 with the following:

"1.1 This specification covers requirements, principles and responsibilities of a general nature which are normally applicable to all civil engineering contracts as well as the requirements for the contractor's establishment on site."

PS A 2 INTERPRETATIONS

PS A 2.3: Definitions

1. General

Add the following definitions:

“General conditions: The general conditions of contract specified for use with this contract and the special conditions of contract as applicable.

Specified: As specified in the standardized specifications, the drawings or the project specifications. Specifications shall have the corresponding meaning.”

(c) Measurement and payment

Replace the definitions for fixed charge, time-related charge and value-related charge with the following:

“Fixed charge: A charge that is not subject to adjustment on account of variation in the value of the contract amount or the contract time of completion.

Time-related charge: A charge, the amount of which is varied in accordance with the time for completion of the work as adjusted in accordance with the provisions of the contract.

Value-related charge: A charge, the amount of which is varied pro rata the final value of the measured work executed and valued in accordance with the provisions of the contract.”

PS A 2.4: Abbreviations

Abbreviations relating to standard documents

Add the following abbreviation:

“CKS: SANS Co-ordinating Specification.”

A3 MATERIALS

PS A 3.1: Quality

Substitute the second sentence of the first paragraph of A3.1 with the following:

“Materials shall bear the official mark of the appropriate standard.”

Add the following:

All products used on this contract shall, where a SANS specification exists for such product, conform to the specification and shall bear the inspection seal or brand mark of SABS (South African Bureau of Standards).

Substitute the second paragraph with the following:

The Contractor is responsible for the cost of all testing to ascertain that the materials do comply with the relevant minimum requirements and all such costs shall be deemed to be included in the tendered rates. The cost of control test done by the Engineer and of which the results do not comply with the minimum requirements shall be for the Contractor's account.

The Contractor shall inform the Engineer of any control testing to be done at least 48 hours before such test are required and must allow in his programme for the time necessary for the tests and the processing of the results thereof.”

PS A 3.3: Ordering of materials

The quantities set out in the schedule of quantities have been determined from calculations based on data available at the time and should therefore be considered to be only approximate quantities. The contractor shall therefore, verify the quantities before ordering materials of any kind. No liability or responsibility whatsoever shall be attached to the employer for materials ordered by the contractor except if they have been ordered in accordance with written confirmation issued by the engineer.

The Contractor shall satisfy himself of the continuous availability of material. No extension of time or additional compensation will be granted if material cannot be obtained locally or has to be sourced elsewhere.”

Add the following new clause:

PS A 3.4: SANS Cement Specifications

‘All cement used during construction shall comply with SANS 50197-1 specifications for cement. Where reference is made in this specification or the standard specifications to the cement specifications, e.g. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SANS 50197-1 “Cement compositions, specifications and conformity criteria Part 1: Common cements”.

All cement products on site shall conform to the specification and shall bear the inspection seal or brand mark of the SABS (South African Bureau of Standards).”

Add the following new clause:

PS A 3.4: SANS Bitumen Specifications

Where Reference is made in this specification or the standard specifications to the SABS/SANS bitumen specifications, the following new SANS specification shall apply:

SANS 4001-BT1:2014 – Penetration Grade Bitumen’s
SANS 4001-BT2:2012 – Cutback Bitumen
SANS 4001-BT1:2014 – Anionic Bitumen Road Emulsion
SANS 4001-BT1:2014 – Cationic Bitumen Road Emulsion
SANS 4001-BT1:2014 – Inverted Bitumen Emulsion

Add the following new clause:

PS A 3.5: General Materials

(a) SABS Compliance

All products used on this contract shall, where a SANS specification exists for such product, conform to the specification and shall bear the inspection seal or brand mark of the SABS (South African Bureau of Standards).”

A 4: PLANT

PS A 4.2: Contractor's Office, Stores and Services

Add the following paragraph before the first paragraph:

"The Contractor's construction camp shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. The camp shall always be kept in a neat and tidy condition.

Add the following to the second paragraph:

"One toilet per 10 workmen shall be provided and must be screened from public view and their use shall be enforced. The contractor shall maintain them in a clean & hygienic state at all times".

The contractor shall make arrangements if necessary for the removal of night soil."

Add the following to A 4.2:

"The Contractors site agent or representative must be contactable at all times by phone. Should use be made of radio and or cellular-phones, these must be operational at all times with sufficient back-up batteries or recharging facilities.

There exists no housing facilities for the Contractor's work force, and arrangements must be made by the Contractor to accomplish that as well as transport. The Contractor is solely responsible for their housing, or the arranging thereof, and no payment or extension of time will be allowed because of any delay and/or work damage that may arise. No personnel will be allowed to reside on the site. Only night-watchmen may be on the site after hours."

PS A 4.3: Site Facilities Available

Source of Water Supply and Sewerage connection

The Contractor shall make his own arrangements with the relevant authorities for obtaining water for construction and domestic purposes as well as a power supply and sewerage connection. The Contractor shall pay for the electricity, water and sewage at the rates and tariffs as determined by the local authority, including the cost of supplying a temporary standpipe as required.

Location of Camp Site

The Contractor is responsible to arrange his own camp site.

Housing for Contractor's employees

No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements for housing his employees or transporting them to and from the site. The Contractor is in all respect responsible for the housing and transporting of his employees, and for the arrangement thereof, and no extension of time due to any delays resulting from this, will be granted.

No housing on site shall be allowed.

A 5: CONSTRUCTION

A 5.1: Survey

PS A 5.1.1: Setting out of the Works

Reference and level beacons will be shown to the Contractor by the Engineer at the commencement of the Contract and the Contractor will be responsible for transferring the data to the Site of Works.

The Contractor shall check the condition and accuracy of all reference and level beacons and satisfy himself that they have not been disturbed and are true with regard to position and level. A beacon that has been disturbed shall not be used until its true position and level have been re-established and the new values have been certified by the Engineer. The Contractor shall thereafter be held entirely responsible for the protection of all reference and level beacons.

The Contractor shall employ a capable surveyor to set out the Works to the required lines and levels. The Engineer shall be informed immediately should any discrepancy be discovered between the levels or dimensions obtained by the Contractor and those shown on the drawings.

Where a beacon is likely to be disturbed during construction operations, the Contractor shall establish suitable reference beacons at locations where they will not be disturbed during construction. No beacons shall be covered over, disturbed or destroyed before accurate reference beacons have been established and details of the positions and levels of such beacons have been submitted to the Engineer. The Contractor's reference beacons shall be of at least the same accuracy and sturdiness of construction as the existing beacons.

The Contractor shall submit the method of setting out he proposes to employ to the Engineer. Accurate control offline and level shall be provided by the Contractor at all stages of construction.

Work set out by the Contractor may be checked by the Engineer and any errors found shall be rectified by the Contractor at his own expense. The Contractor shall supply any instrument, equipment, material and labour required by the Engineer for this survey work. Any assistance, including checking given to the Contractor by the Engineer or any setting out done by the Engineer for Contractor shall not be held as relieving the Contractor of his responsibility for the accurate construction of the Works.

The Contractor's survey instruments and survey equipment shall be suitable for the accurate setting out of the Works and shall be subject to the approval by the Engineer. They shall furthermore be checked and correctly adjusted by the authorized agents before the commencement of the contract and subsequently when required by the Engineer and when otherwise necessary.

When required the Contractor shall, at his own expense, provide one labourer to assist the Engineer. The Engineer shall have the sole right of approving of such a labourer.

Survey work shall not be measured and paid for directly and compensation for the work involved in setting out shall be deemed to be covered by the rates tendered and paid for the various items of work included under the contract.

PS A 5.1.2: Preservation and replacement of beacons and pegs subject to the land survey act

Replace A5.1.2 with the following:

"Immediately on taking over the site as well as after the placement of corner and erf pegs, after the completion of mass earthworks, the Contractor, under the direction of the Engineer, shall search for all pegs and the Contractor shall compile a list of such pegs that are apparently in their correct positions. The Contractor shall certify this list for future reference.

In the case where erf boundary pegs have already been placed, these pegs will be pointed out and handed over to the Contractor and he shall take all precautions necessary to ensure that such pegs and the pegs referred to in PSA 5.1.1 are not disturbed or destroyed. Any costs in connection with the replacement of pegs for which the Contractor is responsible in terms of Subclause 5.1.2 will be recoverable from the Contractor by deduction from the monthly certificate of payment.

All erf boundary pegs shall be verified by a Land Surveyor after the completion of all operations. All disturbed pegs shall be replaced at the Contractors expense."

PS A 5.2: Watching, Barricading, Electric Lighting and Traffic Crossing

Add the following to A 5.2:

"The crossing of existing entrances to sites and streets must be done so that free access is ensured at all times.

The crossing of roads with services must be done in half-widths to ensure vehicular access at all times. Traffic control shall be done with Stop/Go sign control with the relevant road signs during day time. The Contractor must use hazard lights to warn traffic at night. All excavations must be marked with drums, reflecting tape and warning signs to the satisfaction of the Engineer.

Road traffic signs shall comply with the requirements of the "South African Road Traffic Signs Manual" and shall be approved by the Engineer before construction commences."

PS A 5.4.1: Protection of the overhead and underground services

Add the following to A 5.4:

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.

Existing Services

"Existing Service" shall include any service which has been temporarily taken out of service to allow for the execution of the works or which has been taken out of service as a result of an event which necessitated the execution of the works.

The Council has endeavoured to locate all services and sub-surface obstructions likely to be affected by the work from available record and from surveys, these being shown on the drawings. Although every care has been exercised in the presentation of the available data, the Council cannot and does not vouch for the accuracy or completeness of the information shown. Whenever the Contractor deems it necessary to determine the exact location of an existing service or obstruction, he shall, at his own expense, make any examination that he may consider desirable in advance of the work, and the Council does not accept any

liability for loss, damage or delay to the Contractor as a result of the non-location or inaccurate location of services or obstructions.

Where no underground services are shown on the drawings or scheduled, but the possibility of their presence can be reasonably inferred, the Contractor shall in collaboration with the Engineer, search for such services to establish their positions well in advance of the work. A full report shall then be submitted in good time to the Engineer, to enable the necessary arrangements for the protection, removal or diversion of the services before work is commenced in their vicinity.

As soon as an underground service not shown on the drawings is discovered, it shall be deemed to be a known service and the Contractor will be held responsible for any subsequent damage to it. If such service is damaged during the course of its discovery, the cost of making good such damage will be met by the Cape Town City Council, unless it is established by the Engineer that the Contractor did not exercise reasonable diligence and care and that the damage was avoidable.

In the event of damage to existing services, the Contractor shall take such immediate action as is necessary to prevent further damage or danger to life or property and shall immediately notify the Engineer who will issue instructions as to the necessary repairs or protective measures to be taken. The cost thereof shall be borne by the Contractor irrespective of whether the repairs or protective measures were carried out by him or by or on behalf of the service authority or department concerned.

Provision must be made for the protection and maintenance of existing services for the duration of the contract. No payment will be made in respect of this and all costs must be included in the tendered rates.

Condition of existing services

The Contractor acknowledges that he has inspected and examined all known existing services and all existing services subsequently discovered, as contemplated in Clause PS 8.11.1 and is satisfied that all such services were in an acceptable and serviceable state at the commencement of the works, alternatively, upon discovery thereof as contemplated in Clause PS 8.11.1.

In the event of a dispute as to the acceptability and/or serviceability of an existing service at the commencement of the works or upon the discovery of such service, the Contractor shall bear the onus of proving that the service in question was not in an acceptable and/or serviceable state at the commencement of the works.

Maintenance and Protection of Existing Services

During the course of the works, all existing services including watermains, sewers and stormwater reticulation, electricity transmission and telephone lines, cables, poles and conduits whether in service or not shall be protected, supported and maintained to the satisfaction of the service authority or department concerned and the Engineer. The Contractor shall bear all costs in this regard in respect of the services shown on the Contract Drawings.

Where on account of location or level, existing services have to be permanently altered to accommodate the proposed service, the Council will pay all charges in connection therewith.

Where a number of underground cables are crossed over a distance of 0,5m, they shall be regarded as a single crossing.

Hydrants under pressure, watermain valve covers and manholes shall be kept unobstructed and accessible at all times.

Work in Close proximity to existing Services

The Contractor shall note that no mechanical excavators or vibratory type compactors may be used within three (3) metres of any telecommunications or electrical services. No pegs or stakes shall be driven into the ground in the vicinity of underground services unless their exact positions have been determined.

The Contractors attention is drawn to the following with regard to work done in proximity of ESKOM and other electrical services:

MACHINERY AND OCCUPATIONAL SAFETY ACT(Act No 6 of 1983) WITH REGULATIONS

D16(7) excavations

“The builder or excavator shall ascertain as far as practicable the location and nature of underground services likely to be affected by the excavation and take such steps as may be necessary to prevent danger to persons”

THE ELECTRICITY ACT (ACT No 40 of 1958)

Section 51(3): Offences and penalties

“Any person without legal right (the proof of which shall be upon him) cuts or damages or interferes with any apparatus for generating, transmitting or generating electricity, shall be guilty of an offence and liable on conviction to a fine not exceeding R 1 000.00 or to imprisonment for a period not exceeding twelve months.”

The Contractor shall take the above into account in the drawing up of his construction programme and in the calculation of his tendered rates, and shall note that no additional payment or compensation will be allowed for any additional costs or delays incurred as a result of compliance with these regulations, except as measured and paid under items listed in the schedule of quantities.

The Contractor shall allow all reasonable access to the representatives of any Authority or department for the purpose of maintaining, laying and/or relaying any services, cables or mains during the period of the Contract.

Permanent alterations to existing services ordered in writing by the Engineer, and for which no separate provision has been provided has been made in the Bill of Quantities, will be paid for under dayworks or extra works if required.

A7: TESTING

PS A7.3: Methods of testing

Add the following to clause A7.3

The Standard Methods of Testing Road Construction Materials to be used is the South African National Standards (SANS) 3000 series.

PS A 7.4: Statistical analysis of control tests

Replace A 7.4 with the following:

“Test results will not be analysed by statistical methods, and all results must comply with the minimum requirements of the materials concerned.”

A 8: MEASUREMENT AND PAYMENT

A 8.1: Measurement

Add the following subclause to A8.1:

“B A 8.1.2: Freehaul and Overhaul

Notwithstanding any clauses in any of the Standardised Specifications or Standard Specification Section dealing with the definition, no measurement and/or payment for overhaul will be made. All haulage by machine will be considered to be freehaul and the cost thereof will be deemed to be covered by other rates in the Schedule of Quantities.”

PS A 8.2: Payment

PS A 8.2.5: Adjusted payment for time-related items

The payment to the Contractor for time-related items shall be adjusted in accordance with the following formula in the event of the contract being extended:

Sum of Tendered amounts		<u>Extended contract period as authorised by variation order</u>
for time – related items	X	Tender contract period

The abovementioned adjustment of the payment for time-related items shall be made in the Completion Payment Certificate and shall be the only payment for additional time-related costs.

PS A 8.5 (b) 1: Amount allowed provisionally by Engineer for work done by nominated

Sub-contractor.....Unit: Prov. Sum

Add the following to A 8.5(b) (i):

“Payment will be in accordance with Clause 6.6.1 of the General Conditions of Contract (Second Edition – 2010).”

PS A 8.5 (b) 2: Percentage allowed for supervision, management and co-operation with
nominated sub contractor.....Unit: %

Add the following to A8.5 (b) (ii):

“The tender percentage includes full compensation for supervision and control over the nominated sub-contractor, delays, profits, etc.

The percentage will be calculated on the final amount paid under PS A 8.5.”

PS A 8.7: Daywork

Add the following:

“Daywork will be paid according to the percentage allowance method for items not included in a Schedule of Daywork rates. In this case, for calculating the total remuneration the General Conditions of Contract for the Construction of Civil Engineering Work, second edition (2015) shall apply, with the amendments as in the appropriate special conditions of contract, which are bound into this document. A daywork schedule will be provided for filling in the necessary information. A working day will consist of 8 hours per day only.”

Add the following sub-clause to A8.7:

PS A 8.8.2: Accommodation of traffic..... Unit: Sum

Add the following to A 8.8.2:

The tendered rate covers all costs in respect of the supplying, erection, moving, re-erection and maintenance of all temporary barricades, road signs, lights and flagmen that are required for the protection and safe guarding of the works (all as per the S.A. Road Traffic Signs manual) road note 13, for making the necessary traffic arrangements and arrangements with regards to the regulations in respect of moving and/or the re-erection of existing road signs, as well as other costs that may arise during construction in respect of the traffic. No old style signs shall be permitted.”

In addition to the above, the tendered rates must allow for the following with regard to each of the items:

- (i) For Contractor's Access

The rate for this item must also include all costs including materials for the building, gravelling and maintenance of access roads to the works, borrow pits and spoil sites, as well as the breaking up and, the removing or clearing and tidying up of such roads on completion of the works, in addition to keeping all spoil routes clean throughout the contract.”

PS A 8.8.5 (b) 2:Cost of survey in terms of the land surveying act..... Unit: Sum

Replace A 8.8.5 with the following:

“The amount covers all costs in respect of labour, materials and equipment needed for the finding, noting and compilation of a list and protecting of beacons and pegs, all of which are described in Clause 5.1.2 of SANS 1200 A.”

PS A 8.10 ENVIRONMENTAL OBLIGATIONS

The Tenderer must allow for all costs and expenses in connection with the compliance with the Environmental management specification under the items below.

PS A 8.10.1 Environmental aspects and impacts.....Unit: Sum

Payment of the sum tendered shall include full compensation for all costs resulting from complying with environmental specifications and requirements in terms of the Contract as specified (See C3.5 Management - Particular Specification E: Environmental Management Specification).

PS A 8.10.2 Environmental Awareness training.....Unit: Sum

Payment of the sum tendered shall include full compensation for all costs resulting from complying with environmental awareness training in terms of the Contract as specified (See C3.5 Management - Particular Specification E: item E5.2 Environmental Awareness Training).

PS A 8.11 HEALTH AND SAFETY OBLIGATIONS

The Tenderer must allow for all costs and expenses in connection with the compliance with the Occupational health and Safety Act No. 85 of 1993 and Construction Regulations 2014 under the items below.

PS A 8.11.1 Health and Safety.....Unit: Sum

The rate shall cover the costs for the provision and maintenance of health and safety regulations required in terms of Clause 5 (main contractor and subcontractor) of the Construction regulations (2014) of the Occupational Health and Safety Act. and the health and safety specifications (See C3.5 Management - Particular Specification H : Health and Safety Specification) for the duration of the contract. No other payments will be made in respect of the above-mentioned, and the Tenderer shall ensure that sufficient provision is made to cover these costs.

PS A 8.11.2 Health and Safety Plan.....Unit: Sum

The rate shall include risk assessments, as well as the development and implementation of safe work procedures and methods. No other payments will be made in respect of the above-mentioned, and the Tenderer shall ensure that sufficient provision is made to cover these costs.

PS A 8.11.3 Health and Safety File.....Unit: Sum

The rate shall cover the cost to provide and/or obtain information (drawings, designs, materials, operation and maintenance manuals etc.) that must be kept in the safety file, the co-operation/meetings with other parties, as well as the completion and maintenance of the file during the Contract. This file must be handed over to the Employer after completion of the Contract

No other payments will be made in respect of the above-mentioned, and the Tenderer shall ensure that sufficient provision is made to cover these costs.

SANS 1200 AB: ENGINEER'S OFFICE

AB 3: MATERIAL

PS AB 3.1: Nameboards

Two Nameboards must be erected on site, situated as specified by the Engineer. The boards will be as specified on the standard detail of the Nama Khoi Municipality in English and Afrikaans.

PS AB 3.2: ~~Office Buildings~~

Replace the second sentence of AB 3.2 with the following:

~~The area of the office for the Engineer shall be at least 18 m². The offices shall be supplied complete with desks, filing cabinets and steel cupboards. The Contractor shall provide the Engineer with a complete telephone service on a separate exchange line not connected to the Contractor's line or switchboard. A rain gauge shall be of an approved plastic type mounted externally on a sturdy pole in a position approved by the Engineer. All floors shall be of 20 Mpa concrete, not be less than 100 mm in thickness, be adequately damp-proofed and shall have a steel float finish. All floors shall be covered with fixed industrial type carpets. Doors shall be provided to all office units. All doors shall be lockable from either side. All windows shall be suitably protected against the entry of direct sunlight by means of vertical blinds and supplied with approved burglar proofing. Electric lighting shall be provided for all office accommodation and external roofed areas on the basis of two x 80 watt fluorescent lights for every 12 m² or part thereof of floor space. Lighting and electricity to all power points shall be provided 24 hours a day. Suitable description, designation or name boards as directed by the Engineer, with lettering 35 mm in height, shall be affixed to the door of each office or unit at no extra payment. Fire extinguishers shall be provided for office accommodation on the basis of one 2.5 kg BCF type fire extinguisher for every 24 m² of floor space provided or portion thereof. All furniture, equipment and fittings provided by the Contractor shall be new unless otherwise agreed with the Engineer. The offices must have an adjacent carports with the minimum dimensions of 6 m x 6 m with a free draining, wearing course sub-base floor. The roof must be built in such a way that a vehicle will be shielded against the sun throughout the day. An approved shade net may be used for the sides to comply with the above mentioned requirement.~~

~~The office shall be fenced with a 3 m high diamond mesh security fence with a single overhang incorporating one 3 m high, 5 m wide double leaf security gate fitted with a padlock and chain. No separate payment will be made for the fencing and gates of the Engineer's offices and the cost thereof shall be deemed to be included in other payment items.~~

~~Engineers ablution facility for exclusive use of Engineers staff to be trailer type unit, SANITECH or equivalent approved:~~

- ~~• toilets in one unit~~
- ~~• Hand wash station with fresh water (100l)~~
- ~~• Mobile – easy to move and stable when parked.~~
- ~~• Supplied with toilet roll holder & paper, hand wash basin, soap dispenser, including soap and paper towel dispenser including paper~~
- ~~• 250l waste capacity~~
- ~~• Serviced weekly~~
- ~~• Lockable, padlock to be provided~~

Substitute sub-paragraph (j) in AB 3.2 with the following:

- j) Provision of an approved 16 000 BTU air-conditioner in each room.
- k) 10 m² of softboard notice boards and a white board 1m x 1.5m in each room.

AB 4: PLANT

PS AB 4.1: Telephone

Substitute AB 4.1 with the following:

The Contractor shall supply one cellular phone and a 3g card for exclusive use by the Engineer for official purposes with prior approval from the Engineer.

The Contractor must also supply and maintain a colour photocopy machine and scanner in his offices for the duration of the contract and allow the Engineer to use it for official purposes.

AB 5: CONSTRUCTION

PS AB 5.1: Name boards

Add the following to AB 5.1:

The name boards shall be erected within a month of the commencement date of the contract and shall be placed at the positions indicated by the Engineer. Any damage to these boards shall be repaired within fourteen days of a written instruction issued by the Engineer. .

The Contractor will be permitted to erect a maximum of two of his own name boards, in positions approved by the Engineer. The Engineer reserves the right to order the removal of these boards if they are not kept in good repair.

PS AB 5.6: Survey Equipment

The Contractor shall provide the following tested and approved survey equipment on site for the duration of the contract and for the use of the Engineer whenever needed:

- a) one tachometer capable of reading to minimum 20 seconds and maximum 6 seconds of arc, plus tripod and two staffs;
- b) one automatic level plus tripod and staff;
- c) 20 m and 50 m measuring tape; and
- d) one measuring wheel

The above-mentioned equipment may by arrangement be shared between the Contractor and the Engineer's representative.

The Contractor shall provide proof, at the start of the contract, that the tachometer and level have recently been serviced by an acceptable institution.

The Contractor shall keep the equipment continuously insured against any loss, damage or breakage, and he shall indemnify the Engineer and the Employer against any claims in this regard.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

PS AB 8: MEASUREMENT AND PAYMENT

PS AB 8.2.2: Telephone, Fax machine, Photocopy machine, Survey Assistants, Equipment, ETC

No payment will be made in respect of the above-mentioned, and all the costs concerned will be deemed covered by the unit prices for the Contractors' facilities.

PS AB 8.3 Water, electricity and sewage.....Unit: Sum

The contractor shall, at his own expense, be responsible for obtaining and distributing the water and electricity required for construction and domestic use. The distribution of water and electricity, the cost of which will be deemed to be included in the tendered rates.

SANS 1200 C: SITE CLEARANCE

PS C3: MATERIAL

PS C 3.1: Disposal of material

Substitute the first sentence of C 3.1 with the following two paragraphs:

Material obtained from clearing and grubbing and unusable rubble shall be disposed of off-site at a licensed spoil site to be identified and procured by the Contractor. Materials qualifying for disposal on site will be spoiled where indicated by the engineer. All transport costs shall be included in the rates tendered for site clearance and removal of unusable rubble.

Material obtained from demolition of concrete foundations, dismantling of concrete pipes, removal of concrete roads and driveways, removal of asphalt from roads and sidewalks demolishing of stormwater structures of brick and concrete, kerbs and channels or any other brick and concrete units shall be disposed of off-site at a recycling plant to be identified and procured by the Contractor. All transport costs shall be included in the rates tendered for under the appropriate pay items.

PS C5: CONSTRUCTION

PS C 5.1: Areas to be cleared and grubbed

Substitute the first sentence of C 5.1 with the following:

Only road reserves, channel and pipeline routes and areas as directed by the Engineer shall be cleared and grubbed where necessary. The Contractor may proceed with clearing and grubbing after handing over of the site only in areas as approved by the engineer. Measurement and payment for clearing and grubbing shall only occur for areas as required in writing by the Engineer.

Substitute the last paragraph with the following:

The Contractor shall program his work in such a way that re-clearing will not be necessary. The cost of re-clearing shall be borne by the Contractor.

PS C 8: MEASUREMENT AND PAYMENT

PS C 8.2.11 Sawing of existing asphalt and concrete for sidewalks, roads and driveways.....Unit: m²

The unit of measurement shall be the square meter of saw-cut area calculated in accordance with the authorized length of saw-cut and the average saw depth. The saw cut area shall be measured on one vertical cut face only. The tendered rate shall include full compensation for all material and sawing costs and for saw-cut the asphalt in accordance with the specification. Payment will not distinguish between the various depths of sawing irrespective of the number separate cuts which may be required to saw the layer to the required depth.

PS C. 8.2.12: Remove and recycle various existing concrete, asphalt and brick units from site.....unit:m³

The tendered rates shall include full compensation for fees to be paid for recycling the concrete, asphalt and brick materials at a recycling site identified and procured by the contractor, providing all

labour and equipment, excavations, for lifting the concrete materials and for loading and transporting the concrete materials from the site to the recycling site. Concrete, asphalt and brick materials include the material mentioned under PS C 3.1 second paragraph. Proof of payment must be provided to the Engineer before payment of this item will be certified.

PS C. 8.2.13: Remove and spoil unusable rubble material from site to licensed spoil site.....unit: m³

The tendered rates shall include full compensation for fees to be paid for spoiling at the licensed spoil site identified and procured by the Contractor, providing all labour and equipment, excavations, for loading and transporting the rubble materials from the site to the licensed spoil site. Proof of payment must be provided to the Engineer before payment of this item will be certified.

PS C. 8.2.14: Remove, stockpile and maintain at contractors camp site for re-us

- a) Paving from driveways & roadsm²
- b) Base/Subbase(crusher run or laterite) from existing side walks, verges and roadsm³
- c) Barrier kerbm
- d) C1 Channelm
- e) E1 Edgingm
- f) CK5m
- g) MK10m
- h) Concrete BollardsNo
- i) Concrete PostsNo

The tendered rates shall include all costs to remove, transport, stockpile and maintain acceptable items for re-use from site to the contractors camp or a demarcated area on site approved by the engineer

PS C. 8.2.15: Dismantle structured metal, wood work and store at contractors camp for re-use.....unit: m³

The tendered rate shall include all costs to dismantle, remove, transport, stockpile and maintain acceptable items for re-use from site to the contractors camp or a demarcated area on site approved by the engineer.

PS C. 8.2.16: Take down, secure and re-erect existing boundary fence/wall for:unit: m³

The tendered rate shall include all cost of taking down fences and boundary walls, temporary securing applicable properties from any unwanted access during construction and re-erecting existing fences/walls as per listed types.

SANS 1200 D: EARTHWORKS

PS D 2: INTERPRETATIONS

PS D 2.1: Supporting Specifications

Replace subclause 2.1.2 with the following:

“PSD 2.1.2: Any of the other SANS 1200 specifications may form part of the contract documents.”

PS D 2.3: Definition

Replace the definition “Borrow” with the following:

“Borrow material: Material, other than material obtained from excavations required for the works, obtained from sources such as borrow pits or the authorized widening of excavations. ‘Borrow’ shall have a corresponding meaning.”

Replace the definition “Specified density” with the following:

“Specified density: The specified dry density expressed as a percentage of modified AASHTO dry density.”

Replace the definition “Stockpile” with the following:

“Stockpile (Verb): The process of selecting and, as maybe necessary, loading, transporting and off-loading material in a designated area for later use and a specific purpose.”

Add the following definitions:

“Fill: An embankment or terrace constructed from material obtained from excavations or borrow. In roads it includes the earthworks up to below the selected subgrade level.

Fill (material): Material used for the construction of an embankment or terrace.

Roadbed: The in situ material on which a fill is to be constructed.

Placing: Placing shall mean spreading of backfilling material, watering, mixing, compacting, final grading, complying with the required tolerances and providing for testing, all in accordance with the requirements of the specification.”

PS D 3: MATERIALS

PS D 3.3: Selection

PS D 5: CONSTRUCTION

PS D 5.1: Precautions

PS D 5.1.2.2: Detection, location and exposure

Add the following to D 5.1.2.2:

If existing services are not shown on the drawings but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before commencing with construction. After locating the exact position of services the Contractor shall be liable for all costs and subsequent costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the record drawings.

PS D 5.1.4.1: Dust nuisance

Add the following to D 5.1.4.1:

The Contractor is responsible for dust control and is responsible for all claims which may arise from dust disturbance from the date of site handover to the date of completion of the contract. No payment will be made in respect of the above mentioned and all costs will be deemed as covered by the tendered rates.

PS D 5.1.6: Road traffic control

Add the following to D 5.1.6:

- (a) Sufficient road signs must be erected in such a way that motorists are warned well in advance of works, e.g. at the closing of a street sufficient signs to direct traffic must be erected at the preceding intersection.
- (b) Bypasses and/or road signs shall be provided and/or erected at all locations where the free flow of traffic is obstructed and shall be approved by the Engineer before the commencement of construction. Where main roads are crossed, detours and temporary traffic signs must be provided.
- (c) Where a trench crosses a street or wherever a trench crosses the direction of traffic flow, barriers must be placed in the street, and not just along the sides of the street, with warning tape in between. (Drums may be used in lieu of delineators/barriers, only where approved by the Engineer).
- (d) Drums shall be painted white and provided with retro-reflective warning tape between and around them.
- (e) Drums shall be kept in position with ballast of sand or soil (sufficient only to prevent being blown over and not more than one third full). Stones shall not be used for this purpose. The spacing of drums must be in such a way (maximum 5 m) that they are visible from all directions.

PS D 5.2: Methods and Procedures

PS D 5.2.2.3: Disposal

Substitute the second sentence of D 5.2.2.3 with the following:

Surplus material, which is suitable for fill, shall be transported to open erven areas on the site, to be designated by the Engineer, spread and compacted as fill.

No indiscriminate spoiling of material will be allowed. All surplus or unsuitable material shall be spoiled at a site to be provided by the contractor. Such site shall meet with the approval of the local authority within whose area it falls, and the spoiling shall comply with all the statutory and municipal regulations.

PS D 8: MEASUREMENT AND PAYMENT

PS D 8.3.8: Existing Services

PS D 8.3.8.1: Location

PS D 8.3.8.1 (c): Digging of trial holes by hand to expose existing services.....Unit: m³

Add the following to D 8.3.8.1(c):

Excavation by hand to expose existing services shall only be measured and paid for if so ordered in writing by the Engineer. The rate shall cover the cost of labour, plant and material for the excavation, temporary stockpile of material and the backfill of material compacted to the same density or higher than the immediate surrounding area.

PS D 8.3.11.4: Straw-stabilization.....Unit: ha

The tendered rate shall include all costs to supply, spread and rotivate or harrow the straw 100 mm deep into the sand. (1 bail per 10 m²)

SANS 1200 DB: EARTHWORKS (PIPE TRENCHES)

PS DB 3: MATERIALS

PS DB 3.1: Classes of excavation:

Add the following:

Where it is a requirement that labour intensive methods be used, PS D 3.1.2 will apply.

PS DB 3.5: Backfill Materials

Add the following to DB 3.5.:

a) *Substitute* “from trenches” in DB 3.5(a) with “from trenches, channels or street excavations”.

b) All pipe trenches underneath the roadway must be backfilled with sand of upper selected layer quality compacted to 100% of the modified AASHTO maximum density. Sand is defined as non- plastic material and complies with the following sieve analysis:

% passing	4.740 mm sieve	95% minimum
	0.425 mm sieve	50% minimum
	0.075 mm sieve	10% maximum

Add the following:

c) Cement-stabilised backfilling

Backfilling shall be stabilised with 5 % cement where directed by the Engineer. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5 % cement and shall be compacted in layers of 100 mm thick to 90 % of modified AASHTO density.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary.”

PS DB 3.6: Materials for reinstatement of roads and paved areas

PS DB 3.6.1: Subbase and Base

Substitute DB 3.6.1 with the following:

Where trenches cross or run adjacent to surfaced roads and paved areas of which the surfaces are scheduled to be reinstated, the material excavated from the existing base and/or subbase pavement layer(s) shall be set aside and used in the reconstruction of the subbase layer. Where applicable, new material complying with the requirements of SANS 1200 MF shall be used for the reconstruction of the base layer. Any shortfall in material for the reconstruction of the subbase layer shall be made up by the use of material complying with the requirements of SANS 1200 ME.

PS DB 3.7: Selection

Replace the words “if he so wishes” in the first line of the second paragraph with the words “at his own cost”.

PS DB 3.9: Hand excavatable material

PS DB 4: PLANT

PS DB 4.1: Excavation equipment

Add the following to DB 4.1:

All excavations exceeding the specified widths shall be backfilled with approved selected material. No payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

PS DB 5: CONSTRUCTION

PS DB 5.1: Precautions

PS DB 5.2: Minimum base widths specified

Substitute paragraph (b) of DB 5.2 with the following:

The minimum base width for all pipes with a diameter less than 125 mm shall be 600 mm plus the outside diameter of the pipes, irrespective of the depth at which they are laid. Where two pipes are placed in the same trench, they shall be 300 mm apart and the specified side allowance will still apply.

PS DB 5.4: Excavation

Add the following to DB 5.4:

Excavation and backfilling of pipe trenches on sidewalks in the residential area shall be done in such a way as to ensure the least possible disruption to the public and entrances to properties. No additional payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

All excavation for pipes must be done according to the trench excavation method, and not to the fill method. No additional payment extra over to that listed under item 8.3.3 will be made for pipes, culverts or any other structure that falls within the road or fill layers. Trenches shall be of such a depth that the minimum cover over the pipes shall be 700 mm except at road crossings where the minimum cover shall be 1000 mm.

PS DB 5.5: Trench bottom

Substitute “90%” in the second paragraph of DB 5.5 with “93% (100% for sand)”.

PS DB 5.6: Backfilling

PS DB 5.6.2: Material for backfilling

Substitute “from trench excavations” in the first paragraph for DB 5.6.2 with “from trench, channel or street excavations”.

PS DB 5.6.3: Disposal of Soft Excavation Material

Add the following to DB 5.6.3:

All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site, (as described in PS D 5.2.2.3) and levelled off.

PS DB 5.7: Compaction

PS DB 5.7.2: Areas subject to traffic loads

Add the following to DB 5.7.2:

All pipe trenches that fall in the street reserves, will be regarded as areas subject to traffic loads. Sand backfilling shall be compacted to 100% of Mod.AASHTO density.

PS DB 8: MEASUREMENT AND PAYMENT

PS DB 8.1: Basic principles

PSDB 8.1.1 *Replace the last section of subclause 8.1.1 “..... surplus material along the route of the pipeline within 0,5 km of the source”, with “ surplus material within the freehaul distance of the site boundaries.”*

PS DB 8.1.2 (b) *Replace the depth increments of 1 m with 0,25 m for hand-excavation, and with 0.5 m for machine excavation.*

PS DB 8.2: Computation of quantities

PS DB 8.2.4: Shoring

Add the following to DB 8.2.4:

No payment will be made in respect of this and all costs will be deemed as covered by the rate for excavation.

PS DB 8.3: Scheduled items

PS DB 8.3.2: Excavation

PS DB 8.3.2 (a): Excavate in materials for trenches, backfill, compact and dispose of surplus Material..... Unit: m

Add the following to D 8.3.2 (a):

The depth of excavation in street reserves and other areas shall be measured from the final finished level to the invert level of the pipe.

The rates for trench excavation and excavations for subsoil drains must also include any actions needed to deal with any water in the excavations, as well as loading and transportation of material to a spoil site, spoiling, levelling and compacting the material to 90% (100% for sand) of Mod.AASHTO at a spoil site as described in PS D 5.2.2.3.

The rate shall also provide for the fact that the excavation width in sand will be wider than normal.

In the case of subsoil drains, this rate must allow for the supply of suitable free draining sand from above the geotextile up to 200 mm below the surface level.

PS DB 8.3.2 (d): Excavation by hand to expose existing services..... Unit: m³

The provision of subclause PS D 8.3.8.1 (c) shall apply mutatis mutandis.

PS DB 8.3.3: Excavation Ancillaries

PS DB 8.3.3.3: Compaction in road reserves..... Unit: m³

Add the following to DB 8.3.3.3:

This item is only applicable to the backfill above the bedding and fill blanket. No payment will be made where sand, compacted to 100% of Mod.AASHTO, is used for backfill. All A3-type sands will qualify as sand. The volume measured for payment under this item will be determined from the final finished level.

PS DB 8.3.3.4: Overhaul.....Unit: m³ or m³.km

Add the following:

Where it is a requirement that labour intensive methods be used, PS D 8.3.6 shall apply.

PS DB 8.3.5: Existing services that intersect or adjoin a pipe trench

PS DB 8.3.5 (a): Services that intersect a trench..... Unit: no

Add the following to DB 8.3.5 (a):

Existing services with a depth of cover exceeding 300 mm, measured from the bottom of excavation to the top of the existing service shall not be measured and paid for. There will be distinguished between existing trunk services and existing erf connection.

The rate shall also allow for the cost of the following:

- (i) Sufficient photo's of existing services being taken and handed over to the Engineer before they are being crossed, if there is a possibility of a difference in opinion over the condition of those services.
- (ii) Reinstatement of existing services damaged by the Contractor.
- (iii) Reinstallation of services which were removed by the Contractor.

PS DB 8.3.5 (b): Services that adjoin a trench..... Unit: no or m

Add the following to DB 8.3.5 (b):

The unit "number" will only be used for services such as poles and trees.

The cost for shoring shall be deemed as covered by the listed items and no additional payment will be made for this.

No payment will be made for overhead services that do not directly rest on the ground except where allowance is made for this in the schedule of quantities.

Existing services that rest directly on the ground e.g. poles, trees, walls and structures are handled in the same way as underground services, but the axis of the services will be determined as follows:

The vertical axis is defined as the nearest side or corner of the existing structure to the excavation, measured at the point where the structure and natural ground level intersect.

The horizontal axis will be at the point where the structure and the natural ground level intersect. In this instance, where the excavation falls above the 45° line but within 1,0 meter horizontally from the structure, the service will also be measured as adjoining.

If the structure, according to the abovementioned does not qualify as an adjoining service but the foundation of the structure is such that if a 45° line drawn from the nearest bottom corner thereof cuts through the excavation, the structure will be measured as an adjoining service if approved by the Engineer.

If there is more than one service adjoining the same trench and such a service is on the same side of the trench, payment will only be made for the nearest service to the trench, of if they are the same distance from the trench for the top one. The maximum number of services that will be paid for, is therefore one on each side.

PS DB 8.3.5.3: Rates

Add the following:

- (d) "This rate shall also cover the additional cost of detection, exposure, hand excavation, protection, alteration and backfill with selected material (the last if outside trench dimensions).
- (e) An existing service that has been abandoned at the time it is crossed will not be measured."

PS DB 8.3.6.1: Reinstate road surfaces, complete with all courses..... Unit: m²

The layer works to be allowed for under this item are as follows below. The cost of the imported material to be used in terms of PS DB 3.6.1, and for surfacing to be included in this rate are:

For asphalt roads	MC 30 prime or equivalent 40mm Wearing course "Type A" 150mm G4 base course 150mm G5 subbase 150mm G7 selected subgrade
For gravel roads	150mm G4 base course 150mm G5 subbase 150mm G7 selected subgrade
For segmented paving	80mm interlocking or 60mm bond concrete pavers 20mm sand 150mm G5 subbase 150mm G7 selected subgrade
For cycling lanes, pathways and driveways	MC 30 prime or equivalent 25mm Fine continuously graded asphalt 100mm G5 subbase 150mm G7 selected subgrade

PS DB 8.3.6.1: Reinstate landscaped areas Unit: m²

Landscaped areas to be reinstated with topsoil from stockpile and vegetation to previous state or better.

PS DB 8.3.8: Handling of seepage in trench excavations

The rates for excavation must include any costs for action needed to deal with water in the excavation.

SANS 1200 LB: BEDDING (PIPES)

PS LB 3: MATERIALS

PS LB 3.1: Selected granular material

Substitute LB 3.1 with the following:

Selected granular material shall be an aggregate, sand or granular material, all of a non-cohesive nature and free from any organic material, of which the grading analysis shows 100% passing a 13,2 mm sieve and not more than 5% passing a 0,075 mm sieve and a PI not exceeding 6.

PS LB 3.2: Selected fill material

Substitute LB 3.2 with the following:

The requirements of PS LB 3.1 shall apply mutatis mutandis.

PS LB 3.3: Bedding

Add the following to LB 3.3:

All pipes shall be classified as rigid pipes and shall be laid on a Class D bedding except water connections and HDPE pipes which shall be classified as flexible pipes. Where the trench bottom is unsuitable for a Class D bedding, the pipe will be laid on a Class B bedding on written instruction of the engineer.

PS LB 3.4.1: Suitable material available from trench excavation

Replace the first sentence of LB 3.4.1 with:

Irrespective the requirements of subclause 3.7 of SANS 1200 DB and subclause 3.4.1 of SANS 1200 LB regarding the use of selective methods of excavation, the Contractor must use selective methods of excavation and supply and use plant that will avoid burying or contaminating material that is suitable and required for bedding or covering the pipeline.

PS LB 5: CONSTRUCTION

PS LB 5.1: General

PS LB 5.1.2: Details of bedding

Add the following paragraph:

"The dimension "X" for flexible and rigid pipes as indicated on drawing LB-1 will be 150 mm unless otherwise indicated on the drawing. The dimension "X" will be measured from the invert of the pipe."

PS LB 5.1.4: Compacting

Substitute "90% of MODAASTHO" in LB 5.1.4 with "93% of MODAASHTO (100% for sand)".

PS LB 8: MEASUREMENT AND PAYMENT

PS LB 8.1: Principles

PS LB 8.1.1: Supply of bedding materials measured separately

Add the following to LB 8.1.1:

Payment for bedding material and selected fill material is only made if the selected trench-excavation material cannot be used in the same position as bedding material but has to be obtained from another part of the site of works or designated borrow pits, or from commercial sources.

PS LB 8.1.3: Volume of bedding materials

Add the following to paragraph (b):

“The depth of bedding as specified in PS LB 5.1.2 is applicable. The volume of bedding material displaced by the pipeline shall not be included in the calculation of the volume of bedding material.”

PS LB 8.1.4: Separate items for cradle and blanket

Substitute LB 8.1.4 with the following:

Although distinction may be made as regards items for the bedding cradle and selected fill blanket, the material in both cases shall comply with the requirements for material for bedding cradle.

PS LB 8.1.5: Disposal of displaced material

Add the following to LB 8.1.5:

Excess displacement material must be disposed of at the dumping site as specified in clause PS D 5.2.2.3.

Where it is a requirement that labour intensive methods be used, PS DB 8.3.3.4 shall apply to freehaul and overhaul.

PS LB 8.1.6: Freehaul

Notwithstanding what is specified in subclauses 8.2.1, 8.2.2.2, 8.2.2.3 and 8.2.4, the freehaul distance for disposal of all displaced (surplus) material, shall be within the boundaries of the site of works or where labour intensive methods are specified, the freehaul and overhaul distances are as specified in PS D 5.2.5.1 and PS D 5.2.5.2”

PS LB 8.2.1: Provision of bedding from Trench Excavation.....Unit: m³

Replace the paragraph “the rate shall” with the following:

“The rates shall cover the cost of acquiring, from within site boundaries, bedding that complies with the relevant requirements of the specifications, of delivering it to points alongside the trench spaced to suit the Contractor's methods of working, and of disposing of displaced material outside the site boundaries.”

SABS 1200 LD: FOUL SEWER

LD 3 : MATERIALS

PS LD 3.1.5: Pipes, fittings and pipe joints

Add the following:

All uPVC pipes shall be heavy duty series 34.

PS LD 3.5: Manholes, chambers, etc.

PSLD 3.5.4: Concrete

Replace the sentence with the following:

Only dolomite aggregate and low alkali sulphate resistant cement to SABS 471 shall be used for all concrete, mortar or screeding.

PL LD 3.5.5: Bricks

Add the following:

“Bricks shall be engineering bricks complying with the requirements of SANS 227.”

PS LD 3.5.7: Step irons

Substitute LD 3.5.7 with the following:

Step irons shall be installed in all manholes deeper than 1,2 m. Step irons shall consists of polypropylene coated 12 mm high tensile steel, such as Calcamite or similar. The installation of the step shall be in accordance with the specification of the manufacturer.

PS LD 3.5.8: Manhole covers and frames

Replace clause 3.5.8 with the following:

Covers and frames for manholes shall be heavy duty hinged type ductile iron cover and frame in compliance with EN124-D400 as per SANS 50124. The manufacturer shall be in possession of the relevant ISO or SABS Mark Permit.

PS LD 3.6: Marker posts

Add the following to LD 3.6:

The marker must be a 1200mm steel fencing Y standard pole protruding 200mm above finished ground level directly above the end of the sewer house connection point with wire connected from the pole to the endcap of the connection and painted brown.

LD 5: CONSTRUCTION

LD 5.4: Connections to manholes

Add the following to LD 5.4:

If the gradient of a pipe is more than 1:10, a vertical bend shall be used to connect up to the manhole. The Contractor shall take care that no low point is formed in the pipe as a result of the bend. If a pipe lies at a gradient of 1:10 (5,71°), A 11,25° bend cannot be used since a bend with an angle larger than the grade of the pipe will result in a low point. It is then responsibility of the Contractor to shorten the bend in order to create the required angle. For pipes with a gradient of up to 1:10, the angle can be taken up by a joint in the manhole and if required, also by the joint between the short-length and first full pipe.

LD 5.6: Manholes, inspection chambers, etc.

PS LD 5.6.1: General

Substitute LD 5.6.1 (a) with the following:

Manholes shall be constructed in accordance with the drawings.

1. Final cover levels of manholes in streets and paved areas shall be to the same level as the street or paved area.
2. On gravel sidewalks, lawns and garden areas the cover level shall be 20 mm above the final ground level.
3. In midblock sewers it shall be 50 mm minimum above ground level.
4. In the veld 200 mm above normal ground level.

Where FC manholes are specified they must be bitumen dipped and if the manhole needs to be raised by more than 300 mm, FC sections with the same diameter shall be installed and sealed with Sikaflex-Pro 2HP or similar approved Lifting holes must also be plugged and sealed with Sikaflex-Pro 2HP..

PS LD 5.6.2: Benching

Add the following to LD 5.6.2.3:

Benching for all manholes except those with sandtraps shall be in accordance with drawing no LD-3 in SABS 1200 LD.

PS LD 5.6.3: Step irons

Add the following to LD 5.6.3:

Step irons shall only be installed in manholes deeper than 1,2 m.

PS LD 5.6.4: Brick manholes

Add the following to LD 5.6.4.3:

Walls of brick manholes, shall be plastered internally as shown on drawing LD-3. Manholes shall not be extended above the concrete roof slab by more than 300 mm with brickwork.

PS LD 5.11: Internal erf connections

All sewer connections shall be laid at a minimum gradient of 1:60, except where otherwise ordered by the Engineer. Where steeper gradients can be achieved, the levels of other services must be taken into account. Connections should not be shallower than 1.0 m at a point 1.0 m inside the erf unless minimum grades do not allow this, in which case permission is required from the Engineer.

PSLD 5.12: Marker for sewer erf connection

The marker must be a 1200mm steel fencing Y standard pole protruding 200mm above finished ground level directly above the end of the sewer house connection point with wire connected from the pole to the endcap of the connection and painted brown.

PSLD 5.13: Backfilling around manholes

Material used to backfill around manholes that fall within the road reserve must comply with SABS 1200 LB Subclause 3.1. Material used to backfill around other manholes must comply with SABS 1200 DB Subclause 3.5.

Material adjacent to the walls of the manholes must be watered and mixed to its optimum moisture content, and compacted in layers not exceeding 150 mm in the compacted state. Compaction must be minimum 100% MOD AASHTO for non-cohesive material, and minimum 93% of MOD AASHTO density for cohesive materials.

Backfilling around the structure must be carried out in even layers to avoid uneven side forces."

LD 7: TESTS

PS LD 7.1: General

Add the following to LD 7.1.5:

All tests shall be repeated after the completion of backfilling of pipe trenches.

PS LD 7.2: Tests and Acceptance/Rejection criteria

PS LD 7.2.6: Watertightness of Manholes

Add the following:

Manholes will be inspected at the end of the first winter after completion. No ingress of groundwater into the manhole will be allowed.

Should any manhole fail to pass the inspection to the satisfaction of the Engineer, the fault or faults shall be made good by the Contractor at his own expense according to methods approved by the Engineer and the work shall be inspected again. The cost of all extra work and inspection shall be borne by the Contractor.

LD 8: MEASUREMENT AND PAYMENT

LD 8.2: Scheduled items

PS LD 8.2.3: ManholesUnit : no

The rate shall cover the cost of additional excavation, roof slabs, reinforcement, brickwork, plaster, benching, step irons where required, covers and frames, short sections of inlet and outlet pipes, and backfilling, as well as transport of the manhole/rings from the yard, if applicable.

PS LD 8.2.4: Extra over Item 8.2.3 for backdrops, etc.....Unit : no

Add the following to LD 8.2.4:

a) Backdrop: Backdrops will be measured in different depth categories. The rate must include for all additional excavation, backfilling, pipe couplings, special fittings, bedding, selected backfill, concrete, compaction of fill and disposing of excess material with-in 0.5 km.

PS LD 8.2.7: Concrete encasement.....Unit : m³

The rate shall cover the cost to encase the pipe with a minimum concrete cover of 200 mm around the pipe. The concrete must be of 15 MPa strength.

PS LD 8.2.11: Connection to existing sewer manhole with pipe.....Unit : No.

Add the following to LD 8.2.11:

The tendered rate must allow for all associated work to break into an existing sewer manhole, the handling of the sewer flow in the existing system, the coupling of the old and new system, and the alteration of benching in the existing manhole. The excavation for the pipeline, the backfilling and all materials and spoil of excess materials will be include in the rate.

PS LD 8.2.13: End caps.....Unit : no

The tendered rate must allow for the supply and fitting of a 110 mm dia end cap.

PS LD 8.2.14: Connection to existing sewer pipe.....Unit : no

The rate shall cover the cost of excavation by hand to expose the existing pipe, cutting into the pipe, supply and installation of a junction piece, reducer, 45 deg bend and rodding eye and of the backfilling as well as of handling the sewage flow during construction.

PART C: PARTICULAR SPECIFICATIONS

This part of the Scope of works contains comprehensive additional specifications for matters not covered by and work which is not carried out in terms of the standard specifications.

The number of each clause and each payment item in this part of the project specification is prefixed with a "P" to differentiate these clauses and items as particular specifications.

The following additional specifications are covered under this part of the Project Specifications.

3.4.3. 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.

1 PARTICULAR SPECIFICATION NR 1: GENERIC LABOUR-INTENSIVE SPECIFICATION

The Contractor's attention is drawn to the fact that it is an objective of the contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former shall generally be kept to the practical minimum.

The Contractor shall submit on a monthly basis, daily labour reports to the Engineer indicating the numbers of temporary personnel employed on the works and the activities on which they were engaged.

Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any construction projects:

- Protective overalls

- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM UNIT

1.5.5 Extra over sub-item for branding of EPWP PPE..... Lump Sum

Measurement shall be as specified for pay item 1.5.4 of the bill of quantities

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

EPWP signboard

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

B1231 COMMUNITY LIAISON OFFICER (CLO)

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

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

- To be available on site daily between the hours of ____ (insert time) and ____ (insert time) and at other time as the need arises. His normal working day will extend from ____ morning until ____ (insert time) in the afternoon.
- To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
- To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
- To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
- To attend all meetings in which the community and/or labour are present or are required to be represented.
- To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
- To inform temporary labour of their conditions of temporary employment and to inform temporary

- labourers as early as possible when their period of employment will be terminated.
- (viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
 - (ix) To keep a daily written record of his interviews and community liaison.
 - (x) To attend monthly site meetings to report on labour and RDP matters.
 - (xi) All such other duties as agreed upon between all parties concerned.
 - (xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).

b) Payment for the community liaison officer

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

(c) Period of employment of the community liaison officer

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

COMMUNITY PARTICIPATION

2.1 Purpose

In order to give effect to the need for participation and transparency in the process of appointing labour, the community should participate in the decision making process throughout the life of a project. This shall be achieved through structured engagement between those responsible for the delivery of the project and the community.

2.2 Structure and Composition

A Project Liaison Committee (PLC) may be formed from representatives of the Employer, the Engineer, the Contractor and the Community if the project is such that a specific community can be identified.

2.3 Procedures

- 23.1 The PLC deals with labour and SMME involvement on the project and shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.
- 23.2 The PLC shall make recommendations by consensus. If consensus cannot be reached, the decision of the Employer will be final in cases that have no financial implications for the Contractor or where payment is to be made from PC items. Where the financial responsibility for the successful completion of the works rests with the Contractor, the Contractor's decision shall be final. In fulfilling its tasks, the PLC shall be guided by the relevant sections of this specification and the supplementary documents.

2.4 Tasks of the PLC

- 24.1 To assist with community liaison and resolution of disputes.
- 24.2 To devise fair and transparent procedures that will assist the Contractor in the engagement of labour and the award of sub-contracts to SMME's.
- 24.3 To advise on and monitor labour issues.
- 24.4 To assist in resolving labour disputes.

2.5 Assistance to the PLC

- 25.1 The Employer may appoint a competent local person as a Community Liaison Officer to assist the Engineer and the Contractor in the day to day liaison with the communities directly affected by the project.

C3.1.7.1 Payment for the Labour-Intensive Component of the Works:

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

C3.1.7.2 Applicable Labour Law

The Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic

Conditions of Employment act of 1997 by the Minister of Labour in Government Notice NR347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. An EPWP contract shall be signed between the contractor and the EPWP participant using the template appended. The contracts shall expire on earlier of (i) 31 March, (ii) at the end of the project; or (iii) completion of the works allocated.

C3.1.7.3 Introduction

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

In this document –

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

C3.1.7.4 Terms of Work

- (a) Workers on an EPWP are employed on a temporary basis or contract basis.

C3.1.7.5 Normal Hours of Work

- (a) An employer may not set tasks or hours of work that require a worker to work–
 - a. more than forty hours in any week
 - b. on more than five days in any week; and
 - c. for more than eight hours on any day.
- (b) An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- (c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

C3.1.7.6 Meal Breaks

- (a) A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- (b) An employer and worker may agree on longer meal breaks.
- (c) A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- (d) A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.1.7.7 Special Conditions for Security Guards

- (a) A security guard may work up to 55 hours per week and up to eleven hours per day.

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

C3.1.7.8 Daily Rest Period

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

C3.1.7.9 Weekly Rest Period

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

C3.1.7.10 Sick Leave

- (b) Only workers who work for more than 24 hours have the right to claim sick-pay in terms of this clause
- (c) A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- (d) A worker may accumulate a maximum of twelve days' sick leave in a year
- (e) Accumulated sick-leave may not be transferred from one contract to another contract.
- (f) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- (g) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- (h) An employer must pay a worker sick pay on the worker's usual payday.
- (i) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
 - (j) absent from work for more than two consecutive days; or
 - (k) absent from work on more than two occasions in any eight-week period.
- (l) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- (m) A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

C3.1.7.11 Maternity Leave

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

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee's child is born;
- (b) when the employee's child is sick;
- (c) in the event of a death of –
- (d) the employee's spouse or life partner;
- (e) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

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

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.
- (i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

C3.1.7.15 Payment

- (a) An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- (b) A worker may not be paid less than the minimum EPWP wage rate of **R 120 per day** or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by StatsSA six (6) weeks before implementation).
- (c) A task-rated worker will only be paid for tasks that have been completed.
- (d) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- (e) A time-rated worker will be paid at the end of each month.
- (f) Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- (g) Payment in cash or by cheque must take place –
 - a. at the workplace or at a place agreed to by the worker;
 - b. during the worker's working hours or within fifteen minutes of the start or finish of work;
 - c. in a sealed envelope which becomes the property of the worker.
- (h) An employer must give a worker the following information in writing –
 - a. the period for which payment is made;
 - b. the numbers of tasks completed or hours worked;

- c. the worker's earnings;
 - d. any money deducted from the payment;
 - e. the actual amount paid to the worker.
- (i) 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.
- (j) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.1.7.16 Deductions

- (a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- (b) An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- (c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- (d) An employer may not require or allow a worker to –
 - a. repay any payment except an overpayment previously made by the employer by mistake;
 - b. state that the worker received a greater amount of money than the employer actually paid to the worker; or
 - c. pay the employer or any other person for having been employed.

C3.1.7.17 Health and Safety

- (a) Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- (b) A worker must –
 - a. work in a way that does not endanger his/her health and safety or that of any other person;
 - b. obey any health and safety instruction;
 - c. obey all health and safety rules of the EPWP;
 - d. use any personal protective equipment or clothing issued by the employer;
 - e. report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

C3.1.7.18 Compensation for Injuries and Diseases

- (a) It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- (b) A worker must report any work-related injury or occupational disease to their employer or manager.
- (c) The employer must report the accident or disease to the Compensation Commissioner.
- (d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.1.7.19 Termination

- (a) The employer may terminate the employment of a worker for good cause after following a fair procedure.
- (b) A worker will not receive severance pay on termination.
- (c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- (d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.
- (e) A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

C3.1.7.20 Certificate of Service

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

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

C3.1.7.21 Contractor's default in payment to Labourers and Employees

- (a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
- (b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

C3.1.7.22 Provision of Handtools

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

C3.1.7.23 Reporting

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

- (a) Signed Master rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) Plant utilization returns

Progress report detailing production output compared to the programme of works

UNEMPLOYMENT INSURANCE FUND

The contractor will be responsible for payment or contribution of UIF for all labour employed under the project. Proof of payment of UIF shall be available upon request.

B1233 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen's Compensation Act. The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be an extra payment allowed for by the contractor.

Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, thus bringing about the effective substitution of labour for plant and equipment. Appropriate portions of the Works included in the Contract shall be executed using labour-intensive construction methods.

Except where the use of plant is essential in order, in the opinion of the Engineer, to meet the specified requirements by the Due Completion Date, or where the use of plant is essential as a result of occupational health and safety considerations, the Contractor shall use only hand tools and equipment in the construction of those portions of the Works that are required in terms of these Project Specifications to be constructed using labour-intensive construction methods.

These portions of the Works shall be constructed utilizing only locally employed labour and/or the labour of local subcontractors, supplemented by the Contractor's key personnel to the extent necessary and unavoidable, unless otherwise instructed by the Engineer and in accordance with the further provisions of the relevant sections of Portion B of the Project Specifications.

Subject to considerations of occupational health and safety, the portions of the Works to be executed using labour-intensive construction methods are:

- Clearing and grubbing of the Site;
- Excavation for structures up to 1,5 m deep;
- Bedding, selected fill, backfilling and compaction of all pipe trenches irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities;
- Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- Dismantling and re-erection of fences;
- Mixing and placing of concrete;
- Construction of all brickwork required for structures; and
- Cleaning and tidying up of the Site.

Material

Where possible, the contractor shall source material from within ## km of the site utilizing local labour. The material which may be sourced from site includes:

- Bedding and blanket material

Task Based Activities

Labour Intensive activities are to be planned as task-based works where required. Task based refers to a specific amount of work to be performed which is clearly defined by a quantity and quality. Typically, a particular task can be completed within a working day.

REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME

EPWP Project Specification

As much as is economically feasible, all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)" shall be undertaken using Labour Intensive Construction methods.

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

Requirements for the sourcing and engagement of labour.

- C.1.1. Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
- C.1.2. The rate of pay set for the EPWP is R per task or per day.
- C.1.3. Tasks established by the contractor must be such that:
 - a) the average worker completes 5 tasks per week in 40 hours or less; and b) the weakest worker completes 5 tasks per week in 55 hours or less.
- C.1.4. The contractor must revise the time taken to complete a task whenever it is established

that the time taken to complete a weekly task is not within the requirements of 1.1.3.

C.1.5. The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

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

C.1.6. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 60 % women;
- b) 55% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

B2204 CONSTRUCTION METHODS

Add the following:

"in all cases where soft founding materials is classified as suitable for culvert beddings construction, the in-situ material shall be ripped, moistened and compacted to 90% to 93% modified aashto density. The depth of preparation and compaction of founding material shall be indicated on drawings as specified by the engineer. Allowance for measurement and payment for this work is made in the bill of quantities under this section"

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

SCOPE

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

- a. Trenches having a depth of less than 1.5metres
- b. Stormwater drainage

PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the scope of works to this contract, the requirements of this specification shall prevail.

HAND EXCAVATEABLE MATERIAL

Hand excavateable material is material:

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

1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle

of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

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

Trench excavation

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

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

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

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

Excavation

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

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

MEASUREMENT AND PAYMENT

Add the following:

ITEM UNIT

B22.01 (C) Extra over sub-item for excavation by hand using hand toolcubic metre (m³)

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

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

PROVISION OF STRUCTURED TRAINING

CONTENTS

1 SCOPE

2 GENERIC TRAINING

3 ENTREPRENEURIAL SKILLS TRAINING

4 INSERVICE TRAINING

4 MEASUREMENT AND PAYMENT

1 SCOPE

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

2 GENERIC TRAINING

- 2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.
- 2.2 The generic training will inter alia comprise, but not be limited to the following subjects:

Course Description	Estimated No. Of Trainees	Estimated Duration (Days)
1. Manufacturing of bricks		
2. Brick laying		
3. Placing of bedding material and levelling		
4. Pipe laying		
5. Checking of levels (survey instrumentation)		

- 2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.
- 2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:
 - (a) The name of the training institution and programme
 - (b) The manner in which the training is to be delivered.
 - (c) The numbers and details of the trainers

Such details shall be entered on or attached to Schedule 31 included herein.

- 2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:
- (a) A suitable venue with sufficient furniture, lighting and power.
 - (b) All necessary stationery consumables and study material
 - (c) Transport of the students (as necessary)
 - (d) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.
 - (e) relevant PPE required for the project works
 - (f) Additional supervision of learners during the practical learning stages of the works. Wage for the learners during this stage of the training will be paid through the outputs.
- 2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.
- 2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.
- 2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

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

3 ENTREPRENEURIAL SKILLS TRAINING

- 3.1 Small contractors and subcontractors will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.
- 3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.
- 3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.
- 3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.
- 3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor.
- 3.6 The structured training will comprise out of the following as decided by the Employer:

Course Description	Estimated Duration (Days)
1. Basic Business Principles	
2. Basic Supervision	
3. Running A Business	
4. Legal Principles	
5. Achieving Standards	

- 3.7 The contractor shall provide with his tender, full details of the structured training programme, which he intends to implement, which details shall include the following:
- The name of the training institution and programme
 - The various aspects of each type of training comprised in the programme
 - The manner in which the training is to be delivered
 - The numbers and details of the trainers to be utilised.

Such details of the proposed entrepreneurial training programme shall be entered on or attached to form #### of the forms to be completed by the tenderer.

- 3.8 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:
- A suitably furnished venue (if required) with lighting and power.
 - All necessary consumables, stationery and study material
 - Transport of the subcontractors (as necessary)
- 3.9 All entrepreneurial training shall take place within normal working hours.
- 3.10 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.
- 3.11 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

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

4. IN SERVICE TRAINING

- 4.1 The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

4.1.1 Details of in-service training

(i) The contractor shall attach to applicable returnable form the basic details of his proposed in- service training programme, which details shall inter alia include the following:

- the details of training to be provided
- the manner in which the training is to be delivered
- the number and details of trainers to be utilised.

(ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

(iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

(iv) All labourers shall be remunerated in respect of all time spent undergoing training.

(v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:

- the name of the contractor
- the name of the employee
- the name of the project/contract
- the nature of the work satisfactorily executed by the worker and the time spent thereon
- the nature and extent of training provided to the worker
- the dates of service.

(vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-

service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

4.1.2 Lead time for training

The training of labour as specified shall, as far as possible, take place before commencement of each activity and the contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract".

All formal training is to be documented in terms of the National/Provincial submission forms, and accompanied by an attendance register for the applicable days.

5 MEASUREMENT AND PAYMENT

	ITEM	UNIT
	E12.05 Provision for training	
(a)	Generic skills Provisional (list training courses)	sum
(b)	Entrepreneurial skills Provisional	sum
(c)	Handling cost and profit in respect of sub-item E12.05(a) and (b) above	percentage (%)
(d)	Training venue (only if required)	lump sum
(e)	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (provisional sum)	sum
(f)	Additional supervision during practical training	lump sum

The prime cost sums are provided to cover the actual costs (including wages, tools and PPE) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item 4.1(c) is a percentage of the amount actually spent under sub-items 4.1(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for 4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the provision of all the accredited training as specified in the document.

The lump sum tendered for 4.1 (e) shall include full compensation for the provision of additional supervisory staff to manage the output generated from the learners during practical training.

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

F4.1.1 Beneficiary data

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
- (b) Beneficiary profiles – nationality, gender, age, education level and disability status.
- (c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F4.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.
- (b) Summary of monthly attendance.

F4.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by

each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.
- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

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

Labour-intensive works

Labour-intensive works comprise the activities such as those described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work.

NAMA KHOI MUNICIPALITY

OKIEP VAALHOEK SEWER RETICULATION NETWORK

PROJECT REF NO.: BID/NC062/12/2024-2025

C3.5 : MANAGEMENT

C3.5 Management

C3.5 MANAGEMENT

C3.5.1 CONSTRUCTION PROGRAMME

C3.5.1.1 Format

The programme will be set up in collaboration with the Engineer:

In addition to the requirements of Sub-Clause 5.6.2 of the General Conditions of Contract, the Contractors programme shall:

- i) be in a bar chart form programmed into MS Project Office 2010 or 2016
- ii) show the various activities related to a time-chart indicating the sequence of performing the works comprising the contract.
- iii) indicate critical path activities

C3.5.1.2 Allowances

The Contractors programme shall take the following into consideration:

- i) expected normal climatic weather conditions
- ii) special non-working days as stipulated in the Contract Data
- iii) expected value of the work performed for each activity
- iv) stipulate any other information required by the engineer.

C3.5.2 PROCEDURES DURING CONSTRUCTION

The Contractor to supply, keep up to date and keep the following documents on site on a daily basis:

- i) A full set of the latest construction drawings to be on site permanently for use by the Engineer and others.
- ii) The Contractor to supply and keep on site an A4 triplicate site instruction book, which must be presented to the engineer at all site meetings and site inspections.
- iii) The Contractor to supply an A4 duplicate diary on site to be signed off by Engineers Representative. The Contractor to keep daily diary, with at least the following information.
 - Weather condition
 - Record of any accidents and detail
 - Record of construction activities of the day with associated units measures of

- progress for each activity
- Record of resources (labour, materials, plant, etc.) utilized for each day
- Information of any strikes
- Any other relevant information

C3.5.3 SITE FACILITIES AVAILABLE

C3.5.3.1 Source of Water Supply

The Contractor is to make his own arrangements for the supply of water. Water is available from the municipality's water network. The Municipality does not guarantee the sufficiency or continuity of the supply and no claims will be considered in this regard. The Contractor will be held responsible for any wastage of water due to negligence.

C3.5.3.2 Source of Power Supply

The Contractor is to make his own arrangement for the supply of power.

C3.5.3.3 Location of Camp and Depot

The Contractor must make his own arrangements for a campsite. The Contractor shall make his own arrangements for the accommodation of labour.

C3.5.3.4 Spoil Sites

No indiscriminate spoiling of material will be allowed. All unsuitable surplus material shall be removed from the site and to a suitable spoil site indicated by the Engineer.

C3.5.4 ABNORMAL RAINFALL

Refer to Contract Data – C1.2

C3.5.5 TIME RELATED ITEMS

An approved extension of time (other than an extension of time granted in terms of Clause 5.12 of the Special Conditions of Contract) will entitle the Contractor to submit a claim for additional payment. Any such approved additional payment will be made for proven additional costs for each relevant time related item but will be limited to a maximum amount determined from the sum tendered for such item and from the designated operation, the period stated for the completion of the item or the tendered contract period, as applicable.

C3.5.6 PROJECT BOARD

The Contractor must make provision for one project board as per the drawing bound in document.

C3.5.7 PROTECTION FROM STORMS AND FLOODS

The sum allowed for in the Bills of Quantities shall be deemed to be full compensation for any damage to the Works due to storms, rain, floods, stormwater or subsurface water.

Under no circumstances shall the Contractor be entitled to any additional payment in this regard. The Contractor shall accept full responsibility and costs to handle water from any source on the Site.

C3.5.8 EXISTING SERVICES

The Engineer will provide information regarding the location of the existing pipeline and connections, but the:

Engineer does not accept responsibility for the accuracy of this information. The Contractor shall make further investigations to determine the exact locality, size and depth of existing connections before commencing construction to ensure that no damage is done to any existing pipes or fittings.

The Contractor shall take all reasonable precautions to protect existing pipeline/services during construction and during relocation of such services.

Any pipe, cable, conduit or other services of any nature whatsoever indicated to the Contractor and subsequently damaged as a result of the Contractor's operations shall be repaired and reinstated forthwith by the Contractor or by the authority concerned, all at the expense of the Contractor and to the satisfaction of the Engineer.

Whenever services are encountered which interfere with the execution of the Works and which require be moving and relocating, the Contractor shall advise the Engineer who will determine the extent of the work, if any, to be undertaken by the Contractor in removing, relocating, and reinstating such services.

Any work required to be undertaken by the Contractor in the moving and relocation of services for which no provision is made in the contract documents, or for which no applicable tender rates exist, will be classed and paid for as "Daywork" as prescribed in the General Conditions of Contract.

The Contractor shall work in close co-operation with personnel of the Municipality controlling services, which have to be protected, removed or relocated. No undertaking can be given as to the exact time of commencement or of completion of the relocation, removal or protection of services, which have to be carried out, by the Board or controlling authorities themselves. The Contractor is to make allowance in his programme for this contingency.

Where services have to be removed or relocated or protected the Engineer will at the request of the Contractor, notify or negotiate with the Municipality or authorities controlling those services, but the Employer does not accept liability for any costs resulting from delays in the relocation, removal or protection of any service, or delays as a result of delays in negotiations. The sum allowed for in the Schedule of Quantities shall be deemed to be full compensation for the location and protection of existing services.

C3.5.9 ACCOMMODATION OF TRAFFIC AND PUBLIC ACCESS

During all his operations and when using his machinery, plant and equipment, the Contractor shall at all times take the necessary care to protect the public and to facilitate the traffic flow.

C3.5.10 SETTING OUT OF WORKS

All setting out required to carry out the work shall be undertaken by the Contractor. Setting out of the Works to be priced for in the item provided.

C3.5.11 SANITARY CONDITIONS

The Contractor shall ensure that, during the period of construction, sanitary conditions prevail on the site and surrounding areas. Unhygienic behaviour that may cause contamination of the works or the surrounding area is strictly prohibited.

C3.5.12 CONSTRUCTION IN CONFINED AREAS

It may be necessary for the Contractor to work within confined areas and no additional payment will be made for work done in restricted areas. The method of construction in these confined areas will depend largely on the Contractor's construction plant. However, the Contractor shall note that measurement and payment will be only in accordance with the specified cross-sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered during working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for additional payment be considered in such cases.

C3.5.13 DENSITY TESTS / CONCRETE CUBES

The Contractor shall carry out his own density tests on each compacted layer and these tests shall be submitted to the Engineer for scrutiny and approval before commencing with the construction of the following item.

The Contractor also needs to do his own concrete cube tests, which is to be handed to the Engineer for scrutiny and approval. The Engineer may order that further, control tests are to be taken.

The Engineer may order that control tests be taken by his own or another independent laboratory. A provisional sum is provided in the Bills of Quantities to allow for the cost of control tests.

The sum allowed shall, however, be under the control of the Engineers and payment shall only be made to the Contractor on receipt of proof of expenses incurred by the contractor for the tests, i.e. payments to be made to an independent laboratory.

Should these control tests indicate failure to obtain the required standards, the cost of the tests shall be for the Contractor's account. Cub/Density tests carried out by the Contractor in the normal course of his work shall not be covered by this sum and shall be carried out at his own expense.

The tendered rates in the Bills of Quantities shall be deemed full compensation for the testing of materials.

C3.5.14 PRESSURE TESTS

The Contractor shall carry out pressure tests under the supervision of the Engineer on sections of the pipeline. The Contractor must supply all the necessary equipment to execute the testing of the pipeline, joints, connections and fittings on site. Full payment for installation of pipelines will only be processed after completion of pressure tests. The maximum length of pipeline that must be tested is 1.0km. All pipe sections to be tested at a pressure of at least 1,5 X the working pressure of the pipeline.

C3.5. 15 COMMUNITY LIAISON OFFICER (CLO)

The CLO official shall be identified by the Employer to act as a liaison person between the Contractor and the persons to be employed. The liaison officer must be appointed by a process of appointment and the job description is available from the Employer or the Employers Agent which must be communicated with him after appointment.

C3.5. 16 LABOUR INTENSIVE ACTIVITIES

GENERIC LABOUR-INTENSIVE SPECIFICATION

The Contractor's attention is drawn to the fact that it is an objective of the contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former shall generally be kept to the practical minimum.

The Contractor shall submit on a monthly basis, daily labour reports to the Engineer indicating the numbers of temporary personnel employed on the works and the activities on which they were engaged. The reporting shall be on EPWP formats that will be provided at the site handover meeting. These reports must be submitted with Monthly Payment Certificate Claims, otherwise payment will not be processed.

The normal rules and regulations in terms of the Labour Act must be adhered to. Minimum wages for the region must be paid to the labourers and formal Labour-contract documentation must be in place during the construction period.

The following activities must be executed with local labour:

- i. The normal handling, installation and testing of water pipes.
- ii. Placing and preparation of bedding and blanket materials in pipe trenches.
- iii. Compaction of bedding and blanket materials.

- iv. Building of all manholes and concrete structures.
- v. Final site clearance.

The following activities as identified in the Schedule of Quantities **may only be executed by means of Labour-Intensive Methods**:

- Item 1.4.1 a & b
- Item 2.1.1
- Item 2.3
- Item 2.4
- Item 3.3.1 a
- Item 3.1.2.3
- Item 3.1.2.4
- Item 3.2.1
- Item 3.3
- Item 3.4
- Item 3.5
- Item 4.1
- Item 4.2
- Item 4.3
- Item 5

C3.5. 17 CONCRETE MARKERS

Concrete markers will be placed by the contractor along the pipelines at 500m intervals and at direction deviations. The markers must be precast or on site casted clearly in scripted with the letter 'w' (for water pipeline) at the top. The concrete must be reinforced with a minimum strength of 25 MPa and the marker must be installed at least 400mm underground and 600mm above ground.

C3.5. 18 EXCAVATIONS OF TRENCHES

The following rules must apply for the excavation of trenches:

- The pipeline route will be set out 4.0m from the existing pipeline where necessary.
- Excavations must be done without damaging the existing pipeline.
- The maximum allowable open trench length is 500m.
- The trenches must be excavated according to the prescribed grade line with deviations of not more than 3.5%.

C3.5.19 CLASSES OF EXCAVATION (Sub clause 3.1.2)

All material encountered in any excavations for any purpose including restricted excavation will be classified as follows:

i. Hard rock excavation

Hard rock excavation shall be excavation in material (including boulders exceeding 0.15 cubic metres in individual volume) that cannot be efficiently removed without blasting or without wedging and splitting or be in material, which cannot be excavated by a loader/backhoe or by a scraper without prior ripping.

ii. Intermediate excavation

The excavation in the decomposed granite or calcrete type material that can be excavated without blasting or wedging, but not classified as hard rock, shall be treated as intermediate material.

iii. Soft excavation

Soft excavation shall be all material not falling into the category of hard rock or intermediate excavation.

C3.5.20 MANHOLES

The rates for both chambers and manholes shall be measured as a unit and shall cover the cost of all items excluding pipe work. Included would be excavation, concrete work, brickwork (190mm bricks) and precast concrete slabs with manhole cover and frame.

C3.5.21 QUALITY CONTROL BY THE ENGINEER

Except for the quality control measures that must be implied by the Contractor, the Engineer can arrange and executed his own quality control inspections. Invoices will be forwarded to Contractor for payment and to claim with a 7, 5% mark-up.

C3.5.22 HEALTH AND SAFETY PLAN

In compliance with the Construction Regulations the Contractor shall, after performing a risk assessment, prepare a health and safety plan for approval by the Employer.

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

- The safety management structure including the names of all designated persons such as the construction supervisor and any other competent persons;
- Safety method statements and procedures to be adopted to ensure compliance with the OHSA. Aspects to be dealt with shall include:

Public vehicular and pedestrian traffic accommodation measures; Control of the movement of construction vehicles;

The storage and use of materials; The use of tools, vehicles and plant;

Temporary support structures; Dealing with working at height;

Environmental conditions and safety requirements in working hazardous materials including asbestos cement products;

Security, access, control and the exclusion of unauthorised persons.

- The provision and use of temporary services;
- Compliance with wayleaves, permissions and permits;
- Safety equipment, devices and protective clothing to be employed;
- Emergency procedures;
- Provision of welfare facilities;
- Induction and training;
- Provision and maintenance of the health and safety file and other documentation;
- Arrangements for monitoring and control to ensure compliance with the safety plan.
- Provision to comply with all the regulations relating to Covid19.