

# MUNISIPALITEIT DAWID KRUIPER MUNICIPALITY



## **BID**

### **TN004/2022 REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY**

DIRECTORATE CIVIL ENGINEERING SERVICES

PRIVATE BAG X6003

UPINGTON

8800

### **NOTICE : TN004/2022**

**Bidders name :** \_\_\_\_\_

**Bid Price :**     **R** \_\_\_\_\_

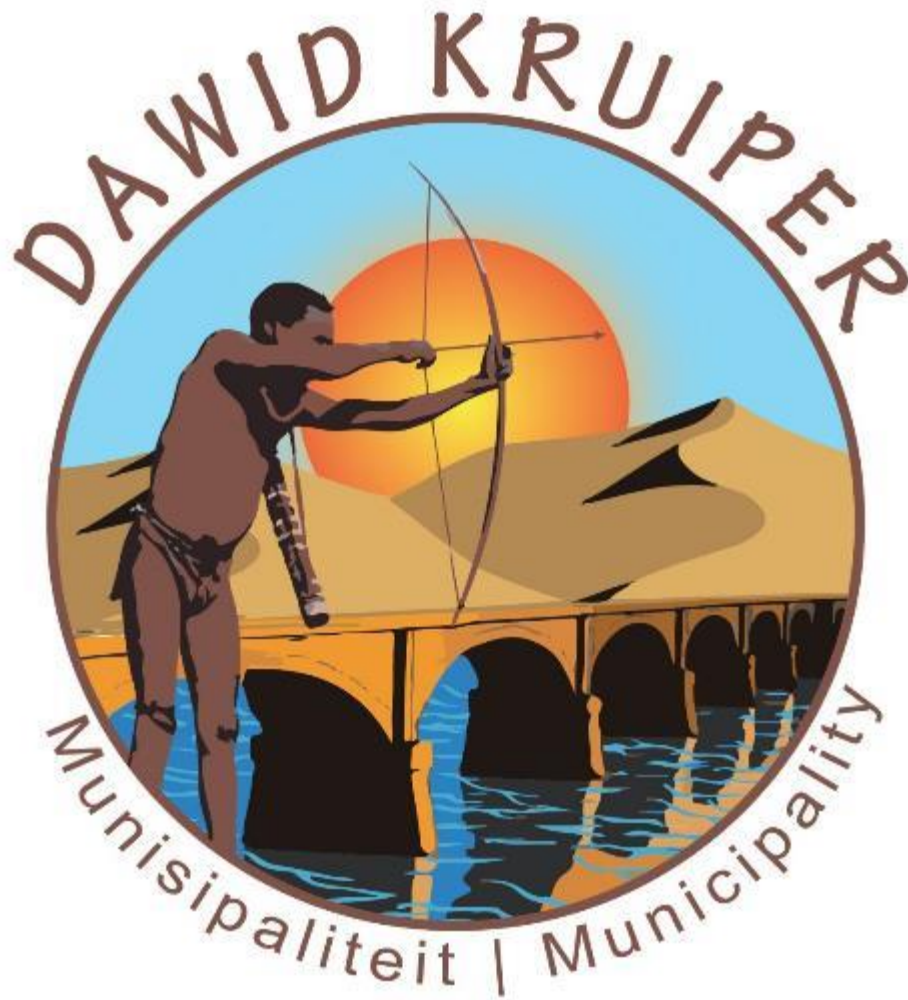
**DAWID KRUIPER MUNICIPALITY**

**REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID  
KRUIPER MUNICIPALITY**

	<b>CONTENTS</b>	<b>PAGE</b>
A	General Conditions of Contract	3 - 17
B	Specifications	18 – 20
C	Form of Quotation	21
D	Summary of items and quoted prices	22 - 23
E	Forms	24 – 49
F	Annexures	50
H	Contract Data	51 - 58
G	Technical Specifications	59 - 163

# DAWID KRUIPER MUNICIPALITY

Republic of South Africa



## DAWID KRUIPER MUNICIPALITY PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

**TN004/2022 REPAIR AND RESURFACE OF VARIOUS ROADS IN  
DAWID KRUIPER MUNICIPALITY**

**DAWID KRUIPER MUNICIPALITY****SECTION "A"****GENERAL CONDITIONS OF QUOTATION****TABLE OF CLAUSES**

1. Definitions
2. Application
3. General
4. Standards
5. Use of contract documents and information inspection
6. Patent Rights
7. Performance security
8. Inspections, tests and analyses
9. Packing
10. Delivery and documents
11. Insurance
12. Transportation
13. Incidental Services
14. Spare parts
15. Warranty
16. Payment
17. Prices
18. Variation orders
19. Assignment
20. Subcontracts
21. Delays in the supplier's performance
22. Penalties
23. Termination for default
24. Anti-dumping and countervailing duties and rights
25. Force Majeure
26. Termination for insolvency
27. Settlement of Disputes
28. Limitation of Liability
29. Governing language
30. Applicable law
31. Notices
32. Taxes and duties
33. Transfer of contracts
34. Amendments of contracts

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

## General Conditions of Contract

### 1. Definitions

1. The following terms shall be interpreted as indicated:
  - 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
  - 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
  - 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
  - 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
  - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
  - 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
  - 1.7 "Day" means calendar day.
  - 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
  - 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
  - 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is obtained.
  - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

### GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

**Dawid Kruiper: Republic of South Africa**

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT****Dawid Kruiper: Republic of South Africa**

- 1.24 “Services” means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.
- 1.25 “Supplier” means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.
- 1.26 “Tort” means in breach of contract.
- 1.27 “Turnkey” means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.
- 1.28 “Written” or “in writing” means hand-written in ink or any form of electronic or mechanical writing.

## **2. Application**

- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.
- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

## **3. General**

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 Invitations to bid are usually published in locally distributed news media and on Dawid Kruiper municipality's website.

## **4. Standards**

- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

## **5. Use of contract documents and information inspection**

- 5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

# **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.
- 6. Patent Rights**
- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
- 6.2 When a supplier developed documentation / projects for Dawid Kruiper municipality, the intellectual, copy and patent rights or ownership of such documents or projects will vest in Dawid Kruiper municipality.
- 7. Performance security**
- 7.1 Within fourteen (14) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
  - (b) a cashier's or certified cheque.
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

## **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**



## **8. Inspections, tests and analyses**

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.
- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

## **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

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| <b>9. Packing</b>                 | <p>9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.</p> <p>9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, and in any subsequent instructions ordered by the purchaser.</p>  |
| <b>10. Delivery and Documents</b> | <p>10.1 Delivery of the goods and arrangements for shipping and clearance obligations, shall be made by the supplier in accordance with the terms specified in the contract.</p>  |
| <b>11. Insurance</b>              | <p>11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.</p>  |
| <b>12. Transportation</b>         | <p>12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified</p>   |
| <b>13. Incidental Services</b>    | <p>13.1 The supplier may be required to provide any or all of the following services, including additional services, if any:</p> <ul style="list-style-type: none"> <li>(a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;</li> <li>(b) furnishing of tools required for assembly and/or maintenance of the supplied goods;</li> <li>(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;</li> <li>(d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and</li> <li>(e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.</li> </ul> <p>13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.</p> |

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

**14. Spare parts**

- 14.1 As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:
- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and;
  - (b) in the event of termination of production of the spare parts:
    - (i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
    - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested

**15. Warranty**

- 15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise.
- 15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the supplier shall, within the period specified and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

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| <b>16. Payment</b>                              | <p>16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified.</p> <p>16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.</p> <p>16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.</p> <p>16.4 Payment will be made in Rand unless otherwise stipulated.</p>   |
| <b>17. Prices</b>                               | <p>17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.</p>  |
| <b>18. Variation Orders</b>                     | <p>18.1 In cases where the estimated value of the envisaged changes in purchase does not vary more than 15% of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price, and such offers may be accepted provided that there is no escalation in price.</p>  |
| <b>19. Assignment</b>                           | <p>19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.</p>  |
| <b>20. Subcontracts</b>                         | <p>20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.</p>  |
| <b>21. Delays in the supplier's performance</b> | <p>21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.</p> <p>21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.</p> |

## **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

- 21.3 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.
- 21.4 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.
- 21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

## **22. Penalties**

- 22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

## **23. Termination for default**

- 23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
  - (b) if the supplier fails to perform any other obligation(s) under the contract; or
  - (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

## **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

- 23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
- 23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.
- 23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.
- 23.5. Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.
- 23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:
- (i) the name and address of the supplier and / or person. restricted by the purchaser;
  - (ii) the date of commencement of the restriction
  - (iii) the period of restriction; and
  - (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

- 23.7. If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website

## **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

**24. Antidumping and countervailing duties and rights**

- 24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

**25. Force Majeure**

- 25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

**26. Termination for insolvency**

- 26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the purchaser.

**27. Settlement of Disputes**

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
  - (b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

<b>28. Limitation of Liability</b>	28.1	Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6;
	(a)	the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
	(b)	the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
<b>29. Governing Language</b>	29.1	The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
<b>30. Applicable law</b>	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified.
<b>31. Notices</b>	31.1	Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.
	31.2	The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
<b>32. Taxes and duties</b>	32.1	A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
	32.2	A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
	32.3	No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.
	32.4	No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

#### **GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

**Dawid Kruiper: Republic of South Africa**

<b>33. Transfer of contracts</b>	33.1	The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser
<b>34. Amendment of contracts</b>	34.1	No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and



of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

**35. Prohibition of restrictive practices**

- 35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.
- 35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.
- 35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

Revised July 2010

**GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT**

## **DAWID KRUIPER MUNICIPALITY**

### **SPECIFICATION**

#### **REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY**

##### **1. SCOPE OF BID**

The bid document makes provision for the appointment of a contractor to provide routine maintenance and resurfacing works, such as asphalt overlays, Concrete Works and resealing works, on various roads in Dawid Kruiper Municipality (Upington area).

**The final actual scope will be concluded on site due changing nature of defects within.**

##### **2. CLOSING DATE AND COMPULSORY SITE MEETING**

- 2.1. Sealed bids clearly marked “**TN004/2022 : REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY** ” must be placed in the Municipal tender Box **before or at 14:00 on Friday, 20 May 2022** and will be opened directly thereafter in the **Council Chambers** at the Municipal Offices.
- 2.2. A compulsory tender clarification meeting will be held on **Friday, 29 April 2022 at 10h00** in the **Council Chambers** at the Municipal building located in Mutual Street, Upington.
- 2.3. The clarification meeting commences strictly as indicated above and doors will be closed.
- 2.4. All Covid19 protocols must be adhere to.

##### **3. GENERAL REQUIREMENTS**

- 3.1. This bid document as a whole, without any alteration, modification, deletion, editing or formatting of the documents content, must be completed and returned no later than the closing date and time to be evaluated. Any incomplete, altered, modified, edited or formatted document will not be considered.
- 3.2. The lowest or only bid will not necessarily be accepted.
- 3.3. Bids per fax or E- mail will also not be considered, only the original signed document will be accepted.
- 3.4. The following forms, Summary of items and bid price, MBD 1, MBD 4, MBD 6.1, MDB 7.1, MBD 8 and MBD 9, must be completed.
- 3.5. Bids will be evaluated in accordance with the applicable Preferential Point Scoring System as set out in the Councils Supply Chain Management Policy.

#### **4. COMPULSORY DOCUMENTATION**

These documents **must be attached** to the bid form. Bids not containing these documents will be deemed as incomplete. (*Attach to Section F*)

- 4.1. A copy of the Municipal account not older than 3 months.
- 4.2. If the bidder is not liable for levies for municipal services, a Sworn Affidavit indicating reasons as to why a municipal account cannot be submitted and/or a Lease Agreement indicating such must be provided.
- 4.3. **B-BBEE points would be allocated if:**
  - 4.3.1 **A certified copy of the B-BBEE verification certificate must be attached to the bid. A verification certificate will only be accepted if the verification agency is accredited by South African National Accreditation System (SANAS) or**
  - 4.3.2 **An original Sworn Affidavit fully completed with black ink, must be attached to the bid document**
- 4.4. Submit audited annual financial statements for the past three years, if your bid price exceeds R 10million.

#### **5. BID PRICING**

- 5.1. Bidders are required to quote prices according to the price schedules and specifications.
- 5.2. Price(s) quoted must be valid for at least 90 (ninety) days from bid closing date
- 5.3. Price(s) quoted must be firm and must be inclusive of VAT.
- 5.4. All prices must include delivery cost, accommodation and travel cost.
- 5.5. The Municipality reserve the right to reduce scope to fit budget.
- 5.6. The Lowest bid does not necessary qualified but the suitable bidder.
- 5.7. The Municipality reserve the right not to appoint the only bid received or qualifying.

#### **6. METHOD OF DELIVERY AND ADDRESS**

Goods and services must be delivered as a whole.

Delivery must be made to

Dawid Kruiper Municipality  
Municipal building  
Mutual Street  
Upington  
Northern Cape

#### **7. LEGISLATIVE REQUIREMENTS**

- 7.1. Occupational Health and Safety Act (Act 85 of 1993) and Construction Regulations 2014.
- 7.2. The General Conditions of Contract for Construction works (2<sup>nd</sup> Edition) 2010 as published by the South African Institution of Civil Engineering. This publication is available and bidders must obtain their own copies at their own cost.
- 7.3. The COLTO Standard Specifications for Roads and Bridge Works for State Road Authorities (1998 Edition) prepared by the Committee of Land Transport Officials as amended, shall apply to this contract. These publications are available and bidders must obtain their own copies at their own cost.
- 7.4. Kindly refer to Section G and Section H, for contract specific amendments to item 8.2 and 8.3.

## 8. **SPECIFIC REQUIREMENTS**

- 8.1. The Municipality needs the services of a contractor for routine maintenance and resurfacing works on identified high trafficked routes within Upington. The focus of this bid is on a total of 9km of roads which includes Concrete works, asphalt overlays, reseal and base (BTB & BSM) repairs.
- 8.2. A contractor must have a CIDB grading of 4CE or higher. **Kindly attach to Section F.**
- 8.3. The bidder to provide proof of similar scope related projects, at least three (3) roads maintenance or construction projects successfully completed. Each project should indicate a contactable reference, project value, project description and signed completion certificate or Reference letter of successfully road maintenance project completed. **Kindly attach list of projects and completion certificates or reference letter in the clients letterhead to Section F, Annexures.**
- 8.4. A list of suitable plant and equipment available for the works specified in item. 9.1, above, and for the duration of the contract. **Kindly attach to Section F, Annexures.**
- 8.5. Organogram of site personnel, e.g. contract manager, site agent, project engineer, project foremen, health and safety practitioner and traffic control officer. **Kindly attach in Section F, Annexures, all CV's including suitable qualifications for all site personnel shown in organogram.**
- 8.6. The contract manager/site agent, whom will be full time on site, for the duration of the contract, should have at least ten (10) years of experience in his managerial position and should have completed at least five (5) projects in asphalt overlays and/or five (5) projects in resealing works. **Kindly attach to Section F, Annexures a project list of the responsible full time site manager, which indicates, contract name, contract description, contract value, contactable reference, position held and his /her responsibilities.**
- 8.7. **Kindly attach proof of items requested in 9.3 – 9.6 above under Section F, "Annexures" Please note, if any one of these documents are not attached or does not meet the particulars of each item, your bid will be deemed non-responsive and therefore not considered for evaluation.**
- 8.8. The technical specifications of this bid document is as explained in detail under Section H of this bid document. The technical specifications comprise of the following sections:
  - 8.8.1. Schedule of standardised specifications.
  - 8.8.2. Locality and detailed scope of work including climate limitations.
  - 8.8.3. Project Specifications including amendments to standardised specifications.
  - 8.8.4. Schedule of drawings where applicable but where no drawings available the contractor will do site physical verification of the defects
  - 8.8.5. Schedule of quantities. Please note, after completion of schedule of quantities, kindly refer to Section C and Section D for completion, as a critical section of this bid.
- 9.9. The construction works should be completed within three (3) months after date of appointment. The bidder should submit a construction programme, as per General Conditions of Contract, 2<sup>nd</sup> Edition, 2010 and B1204, Section G of Technical Specifications. This programme should be attached to Section F, Annexures.

**DAWID KRUIPER MUNICIPALITY****SECTION "C"**

To: The Municipal Manager  
Private Bag X6003  
UPINGTON  
8800

Sir

In response to the official notice calling for the supply and delivery of the services listed I/we, the undersigned, carrying on a business under the name of:

\_\_\_\_\_  
\_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Tel nr: \_\_\_\_\_

do hereby quote to supply the services in accordance with the General Conditions of Quotation and the Specifications attached hereto except in so far as amended in our accompanying covering letter, at the prices given and to deliver those services within the stated delivery period measured from the date of the Council's letter of acceptance of my/our quotation. Quotation prices are included in Section "D" hereof.

The undersigned agrees, that in terms of these documents this Quotation shall remain open for acceptance for a period of **90 (ninety)** days from the date on which quotations are returnable and that notification of acceptance by the Municipal Manager shall constitute a binding contract with effect from the date of such notification.

**Bid price (all taxes included):**R\_\_\_\_\_

Amount in words:

\_\_\_\_\_

SIGNED AT \_\_\_\_\_ ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_  
2022.

Signed by, or on behalf of the bidder, in the presence of the undersigned witnesses.

**WITNESSES:**

1. \_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_  
**SIGNATURE OF BIDDER**

## **DAWID KRUIPER MUNICIPALITY**

### **SECTION “D”**

### **SUMMARY OF ITEMS AND BID PRICES**

All prices quoted must be VAT inclusive.

ITEM	DESCRIPTION	AMOUNT
1.	Section B1200: General Requirements and Provisions	
2	Section B1300: Contractor’s Establishment on Site and General Obligations	
3.	Section B1500: Accommodation of Traffic	
4.	Section B1600: Overhaul and Plant	
5.	Section B1700: Cleaning and Grubbing	
6.	Section B1800: Day works	
7.	Section B2300: Concrete Works, Kerbing, Concrete Channelling, Chutes and Downpipes, and Concrete Linings for Open Drains	
8.	Section B3800: Breaking up Existing Pavement Layers	
9.	Section B3900: Patching and Repairing Edge Breaks	
10.	Section B4200: Asphalt Base and Surfacing	
11.	Section B4400: Single Seals	
<b>16</b>	<b>Subtotal(i)</b>	
<b>17</b>	<b>10 % Contingencies on Sub Total(i)</b>	
	<b>Subtotal (ii)</b>	
<b>18</b>	<b>15% VAT on Subtotal(ii)</b>	
<b>19</b>	<b>TOTAL CONTRACT AMOUNT (Amount to be entered in Section “C” above)</b>	

**NB** : Completion of this page is compulsory and the total must be entered as the bid price in the MBD 1 form below and section C above.

**Signature of Bidder** .....

Witnesses:                    1.....

   2.....

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1200

Number	Item Description	Unit	Quantity	Rate	Amount R
1200	<b>GENERAL REQUIREMENTS AND PROVISIONS</b>				
B12.01	<b>Training:</b>				
	(a) Generic skills:				
	(i) Accredited Training cost of 10 Local labour and 5 municipal workers	PC sum	1	60 000.00	60 000.00
	(ii) Contractor's handling costs, profit and all other charges in respect of sub item B12.01(a)(i)not exceeding 10%	%	60 000.00		
	(b) Other cost during training	Prov sum	1	10 000.00	10 000.00
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1300

Number	Item Description	Unit	Quantity	Rate R	Amount R
1300	<b>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</b>				
B13.01	<b>Contractor's general obligations</b>				
	(a) Fixed obligations	L/sum	1		
	(b) Provision of Construction Board (1200mm x 1800mm board all materials and labour included)	No	1		
	(c) Time-related obligations	month	4		
	(d) Health and Safety obligations	Sum	1		
	(e) Provision of Water and ablution facilities during Construction	Sum	1		
	(f) Provision of Water for construction	Sum	1		
	(g) Provision of Tools and Equipment	Sum	1		
	(h) Provision for the use of a Qualified Roads Engineer for 80 hours for minor designs and supervision of construction of the new Stormwater services and Concrete works and other activities	Hrs	80		
	(i)				
Total Carried Forward To Summary					



**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1500

Number	Item Description	Unit	Quantity	Rate R	Amount R
1500	<b>ACCOMODATION OF TRAFFIC</b>				
B15.01	<b>Accommodating traffic and maintaining temporary deviations on:</b>				
	(a) Identified roadways within Upington	km	5		
	(b) The cross roads of the intersections and traffic circles	km	1		
B15.03	<b>Temporary traffic-control facilities</b>				
	(a) Flagmen (24 hours)	man-day	90		
	(b) Portable STOP and GO-RY signs	Sum	1		
	(e) Road signs, R- and TR-series mounted on:				
	(i) 900mm diameter	Sum	1		
	(f) Road signs, TW-series mounted on moulded stands.				
	(i) 900mm sides	No	6		
	(ii) 1200 x 1600mm high visibility	No	6		
	(g) Road signs, STW-, DTG-, TGS-, TIN and TGD4-series (excluding delineators and barricades)	m²	17		
	(h) Delineators (TW401 and TW402)				
	(i) Single (200mm x 800mm)	No	10		
	(ii) Double sided blade (200mm x 800mm)	No	10		
	(m) Two-way communication devices	No	2		
	(n) Other traffic control measures ordered by the engineer:				
	(i) Provision of other traffic control measures	Prov sum	1	10 000.00	10 000.00
	(ii) Handling costs and profit in respect of sub-item B15.03(n)(i)	%	10 000.00	3.00	300.00
B15.04	<b>Relocation of traffic control facilities</b>	L/sum	1	20 000.00	20 000.00

B15.14	<b>Provision of safety equipment for use by engineer</b>				
	(a) Safety jackets	No	4		
B15.15	<b>Provision of traffic safety</b>				
	(a) Traffic safety officer	month	3		
	(b) Traffic safety vehicle(s)	month	3		
B15.16	<b>Penalty to be deducted for non-compliance with requirements for accommodation of traffic</b>				
	(a) Fixed penalty per occurrence	No		-5 000.	Rate Only
	(b) Time related penalty	h		0.00	Rate Only
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1600

Number	Item Description	Unit	Quantity	Rate	Amount R
1600	<b>OVERHAUL &amp; PLANT</b>				
B16.03	<b>Cost of spoiling at a municipal landfill site:</b>				
	(a) Actual surcharge cost	PC sum	1	20 000.00	20 000.00
	(b) Contractor's handling costs, profit and all other charges in respect of item B16.03(a)	%	20 000.00	10.00	2 000.00
B16.03	<b>Plant Provision</b>				
	i) Hiring of Side cutter for asphalt	Sum	1		
	ii) Hiring of Compactor	Sum	1		
	iii) Purchase of plant (675kg Roller and 450mm blade Gasoline Diesel Pavement Asphalt floor Cutter plant)	Prov Sum	1	300 000.00	300 000.00
	iv) Provision of Milling plant and other required plant	Sum	1		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1700

Number	Item Description	Unit	Quantity	Rate	Amount R
1700	<b>CLEARING AND GRUBBING</b>				
B17.05	<b>Cleaning out of hydraulic structures</b>				
	(a) Pipes with an internal diameter up to and including 750mm and Disposal of discriminating solids at a suitable place				
	(i) By hand	m³	20		
	ii) Pressure Jetting of Stormwater and Sewer Pipes for 20 Days	Sum	1		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
1800

Number	Item Description	Unit	Quantity	Rate	Amount R
1800	<b>DAYWORKS</b>				
B18.01	<b>Personal during normal working hours</b>				
	(a) Unskilled labour	h	10		
	(b) Semi-skilled labour	h	10		
	(c) Skilled labour	h	10		
	(d) Ganger	h	10		
	(e) Flagmen	h	10		
B18.02	<b>Plant</b>				
	(a) Tractor-loader-backhoe (case 580 or similar)	h	10		
	(b) Tip truck (6m <sup>3</sup> capacity)	h	10		
	(c) Plate compactor	h	10		
	(d) Hand controlled 1 roller (Bomag 65 or similar)	h	10		
	(e) Staff propelled vibrating roller smooth (±7 ton)	h	10		
	(f) Compressor and all accessories i.e. breakers, etc. (capacity of ± 4m <sup>3</sup> /min)	h	10		
	(g) Concrete mixer (capacity of ± 350 litres)	h	10		
B18.03	<b>Materials</b>				
	(a) Procurement of materials	Prov sum	1	20 000.00	20 000.00
	(b) Contractors handling cost, profit and other charges in respect of sub item B18.03(a) above	%	20 000.00	3.00	600.00
B18.04	<b>Transport</b>				
	(a) Light delivery vehicle (1 ton)	km	50		
	(b) Flatbed truck (capacity of ± 5 ton)	km	50		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022****REPAIR AND RESURFACING WORKS IN CENTRAL BUSINESS  
DISTRICT OF UPINGTON****SCHEDULE OF QUANTITIES**SECTION  
2300

Number	Item Description	Unit	Quantity	Rate	Amount R
2300	<b>CONSTRUCTION OF CONCRETE INTERSECTION, KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</b>				
23.01	<b>Concrete kerbing</b>				
	(a) Precast kerbing:				
	(i) Barrier kerb BK2	m	50		
	(ii) Edging E1	m	50		
23.02	<b>Concrete kerbing-channelling combination</b>				
	(b) Precast kerbing to SABS 927				
	(i) Figure 4 kerb and figure 14 channel (BK2 + C1)				
	(1) Straight	m	10		
	(2) Radius 1 m to 4 m	m	50		
	(3) Radius 4.01 m to 20 m	m	50		
23.14	<b>Cutting bituminous surfacing and pavement layers for concrete kerbing/edge beam, channelling or concrete-lined drains</b>	m	250		
B23.16	<b>Demolish, remove existing kerbing and replacement, channelling, edging off site</b>				
	(a) Precast kerb	m	76		
	(b) Precast kerb and channel	m	76		
	(c) Edging	m	76		
B23.17	<b>Design and Construct the Concrete Circle including other areas requiring concrete work</b>				
	<b>(a) Concrete works</b>				
	i) Supply and erect Reinforce Steel Y16 - Y 20 or Equivalent Mash	t	8		

	ii) Supply, shuttering and casting 30MPA Concrete	m3	240		
	iii) Excavation of existing bituminous and base	m3	240		
	iv) Treatment and Reconstruction of base course work with G5 aggregate compacted to 98% MODASHTO	m2	800		
	v) Supply shuttering and casting 30 Mpa Edge beam 300mm x300mm between paving interlocks bricks and Concrete/Existing Bituminous srfce	m3	67		
	<b>(b) Paving Blocks</b>				
	i) Removal of existing bituminous surface 20-50mm	m3	3200		
	ii) Treatment Reconstruction of base course work	m2	800		
	iii) Supply and Laying of 80mm interlock block paving incoming lanes to the circle	m2	1600		
	<b>c) Stormwater Design and Construct</b>				
	i) Provide design and construct the stormwater drainage 60 -80m length including Catch pits and pipe supply	Prov Sum	1	Prov Sum	600 000
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
3800

Number	Item Description	Unit	Quantity	Rate	Amount R
3800	<b>BREAKING UP EXISTING PAVEMENT LAYERS</b>				
38.01	<b>Excavating and removing existing bituminous material (except milled material):</b>				
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m <sup>2</sup>	500		
B38.02	<b>Milling out existing bituminous material including all haul with an average milling depth:</b>				
	(b) Exceeding 30 mm but not exceeding 60 mm	m <sup>3</sup>	20		
	(c) Exceeding 60 mm	m <sup>3</sup>	30		
B38.04	<b>Excavating and spoiling material from an existing pavement and/or the underlying fill:</b>				
	(a) Non-cemented material	m <sup>3</sup>	10		
38.07	<b>Extra over items B38.02 and B38.04 for tapering the milled excavation edges or ends</b>	m <sup>3</sup>	10		
38.08	<b>Sawing or cutting asphalt or cemented pavement layers:</b>				
	(a) Sawing asphalt	m <sup>2</sup>	100		
B38.14	<b>Providing the milling machine (level control required)</b>	No	1		
B38.16	<b>Cleaning and preparation of milled area</b>	m <sup>2</sup>	3 000		
Total Carried Forward To Summary					



**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
3900

Number	Item Description	Unit	Quantity	Rate	Amount R
3900	<b>PATCHING AND REPAIRING EDGE BREAKS</b>				
B39.01	<b>Sawing asphalt surfacing or cemented pavement layers for patching:</b>				
	(c) Sawing bituminous surfacing to an average depth:				
	(i) Not exceeding 60mm	m <sup>2</sup>	200		
B39.02	<b>Excavation in existing pavements for patching in:</b>				
	(a) Asphalt layers	m <sup>3</sup>	40		
	(c) Other layers				
	(i) Existing 30 - 50mm thick surfacing seal	m <sup>3</sup>	10		
	(ii) Existing 150mm thick G4 Base course	m <sup>3</sup>	10		
	(iii) Existing 150mm thick G5-G7 Subbase	m <sup>3</sup>	10		
B39.03/42.02	<b>Backfilling of excavations for patching with:</b>				
	(a) Asphalt Base (Continuously graded, 28mm max size 50/70 penetration grade bitumen)				
	(i) Not exceeding 5m <sup>2</sup>	t	40		
	(ii) Exceeding 5m <sup>2</sup> but not exceeding 100m <sup>2</sup>	t	20		
	(iii) Exceeding 100m <sup>2</sup> using an asphalt paver	t	30		
	(b) Asphalt surfacing (continuously graded medium A-E2 modified asphalt)				
	(i) Not exceeding 5m <sup>2</sup>	t	20		
	(ii) Exceeding 5m <sup>2</sup> but not exceeding 100m <sup>2</sup>	t	60		
	(iii) Exceeding 100m <sup>2</sup> using an asphalt paver	t	70		

	(c) Base material stabilized with bituminous emulsion (3% net bitumen using anionic stable grade (-60% emulsion and 1% CEM II, 32.5N) for a patch with a surface area:				
	(i) In situ material (G5):				
	(1) Not exceeding 5 m <sup>2</sup>	m <sup>3</sup>	10		
	(2) Exceeding 5m <sup>2</sup> but not exceeding 100m <sup>2</sup>	m <sup>3</sup>	40		
	(3) Exceeding 100m <sup>2</sup>	m <sup>3</sup>	30		
	(ii) Imported material from commercial sources (G5):				
	(1) Not exceeding 5 m <sup>2</sup>	m <sup>3</sup>	1 5		
	(2) Exceeding 5m <sup>2</sup> but not exceeding 100m <sup>2</sup>	m <sup>3</sup>	15		
	(3) Exceeding 100m <sup>2</sup>	m <sup>3</sup>	45		
39.04	<b>Compacting the floor of excavations for patching</b>	m <sup>2</sup>	2 500		
B39.06/42.04	<b>Tack coat of 30% stable-grade emulsion</b>	litre	1 000		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
4200

Number	Item Description	Unit	Quantity	Rate	Amount R
4200	<b>ASPHALT BASE AND SURFACING</b>				
B42.08	<b>100mm cores in asphalt paving</b>	No	10		
B42.11	<b>Asphalt layer constructed for rehabilitation purposes in accordance with the provisions of sub-clauses 4213 (f)(ii) or 4213 (f)(iii):</b>  (b) Surfacing or overlay constructed with new asphalt (A-E2 modified max aggregate size 14mm)  (i) Continuously graded (40mm thick)	t	150		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
4400

Number	Item Description	Unit	Quantity	Rate	Amount R
4400	<b>SINGLE SEALS</b>				
B44.01	<b>Single seals</b>				
	(a) 14mm single seal (Grade 1 aggregate and S-R1 Binder) with:				
	(i) 14mm stone aggregate	m <sup>3</sup>	6000		
	(ii) New crumb rubber technology (NCRT)	m <sup>2</sup>	60 000		
B44.04	<b>Application of fog spray</b>				
	(a) Spray-grade emulsion (CRS65 emulsion, diluted with 50% water)	litre	12 000		
B44.05	<b>Pre coating the aggregate (Bitcoat/Bitkote or similar approved)</b>				
	(a) 14mm aggregate coating	m <sup>3</sup>	12 000		
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SCHEDULE OF QUANTITIES**

SECTION  
5700

Number	Item Description	Unit	Quantity	Rate	Amount R
5700	<b>ROAD MARKINGS</b>				
57.02	<b>Retro-reflective road marking paint:</b>				
	(a) White lines (broken or unbroken)				
	(i) 100 mm wide	km	1		Rate only
	(iii) 200mm wide	km	1		Rate only
	(vi) 500 mm wide	km	1		Rate only
	(b) Yellow lines (broken or unbroken)				
	(ii) 150 mm wide	km	1		Rate only
	(d) White lettering and symbols	m <sup>2</sup>	1		Rate only
	(e) Yellow lettering and symbols	m <sup>2</sup>	1		Rate only
	(f) Transverse lines, painted island and arrestor bed markings (any colour)	m <sup>2</sup>	1		Rate only
B57.06	<b>Setting out and premarking the lines</b>	km	1		Rate only
57.07	<b>Re-establishment of the painting unit at the end of the maintenance period</b>	L/sum	1		
57.08	<b>Removal of existing, temporary or permanent road markings by:</b>				
	(a) Sandblasting	m <sup>2</sup>	1		Rate Only
	(b) Overpainting as temporary measure	m <sup>2</sup>	1		Rate only
57.09	<b>Removal of existing roadstuds</b>	No	1		Rate only
Total Carried Forward To Summary					

**CONTRACT NO.: TN004/2022**  
**REPAIR AND RESURFACING WORKS OF**  
**UPINGTON ROADS**

**SUMMARY OF SECTIONS**

<b>Section</b>	<b>Description</b>	<b>Amount R</b>
SECTION 1200	GENERAL REQUIREMENTS AND PROVISIONS	
SECTION 1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	
SECTION 1500	ACCOMODATION OF TRAFFIC	
SECTION 1600	OVERHAUL	
SECTION 1700	CLEARING AND GRUBBING	
SECTION 1800	DAYWORKS	
SECTION 2300	CONCRETE INTERSECTION, KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS	
SECTION 3800	BREAKING UP EXISTING PAVEMENT LAYERS	
SECTION 3900	PATCHING AND REPAIRING EDGE BREAKS	
SECTION 4200	ASPHALT BASE AND SURFACING	
SECTION 4400	SINGLE SEALS	
<b>SUBTOTAL</b>		<hr/>
10% Contingencies		<hr/>
<b>SUBTOTAL</b>		<hr/>
Add 15% VAT		<hr/>
<b>TOTAL</b>		<hr/>

**DAWID KRUIPER MUNICIPALITY**

**SECTION “E”**

**FORMS TO BE COMPLETED**

## PART A INVITATION TO BID

<b>YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE DAWID KRUIPER MUNICIPALITY</b>					
BID NUMBER:	TN004/2022	CLOSING DATE: Friday, 20 May 2022	CLOSING TIME:	14h00	
DESCRIPTION	TN004/2022 : REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY				
<b>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).</b>					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT					
Dawid Kruiper Municipality					
Civic Centre					
Mutual Street					
Upington					
8800					
<b>SUPPLIER INFORMATION</b>					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES &amp; QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]</b>					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3 ]	
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE	R	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>			<b>TECHNICAL INFORMATION MAY BE DIRECTED TO:</b>		
DEPARTMENT	Supply Chain Management		CONTACT PERSON	M. Mnganga	
CONTACT PERSON	Mary Marabi		TELEPHONE NUMBER	054 338 7061	
TELEPHONE NUMBER	054 338 7182		FACSIMILE NUMBER	-	
FACSIMILE NUMBER	-		E-MAIL ADDRESS	mduduzi.mnganga@dkm.gov.za	
E-MAIL ADDRESS	mary.marabi@dkm.gov.za				

**TN004/2022 : REPAIR AND RESURFACE OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY**



## PART B TERMS AND CONDITIONS FOR BIDDING

### 1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR ONLINE**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

### 2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
- 2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

### 3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?  
☐ YES ☐ NO
- 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?  
☐ YES ☐ NO
- 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?  
☐ YES ☐ NO
- 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?  
☐ YES ☐ NO
- 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?  
☐ YES ☐ NO

**IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM**

<b>PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</b>
---

**NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.**

**NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

SIGNATURE OF BIDDER:

.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:

.....

DATE:

.....



## DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state<sup>1</sup>.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
- 3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name of bidder or his or her representative:.....

3.2 Identity Number: .....

3.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>):.....

3.4 Company Registration Number: .....

3.5 Tax Reference Number:.....

3.6 VAT Registration Number: .....

3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state? **YES / NO**

3.8.1 If yes, furnish particulars.

.....  
 .....

---

<sup>1</sup>MSCM Regulations: "in the service of the state" means to be –

- (a) a member of –
  - (i) any municipal council;
  - (ii) any provincial legislature; or
  - (iii) the national Assembly or the national Council of provinces;
- (b) a member of the board of directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

<sup>2</sup> Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises

control over the company.

#### MBD 4

3.9 Have you been in the service of the state for the past twelve months? **YES / NO**

3.9.1 If yes, furnish particulars

.....  
 .....

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.10.1 If yes, furnish particulars.

.....  
 .....

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.11.1 If yes, furnish particulars

.....  
 .....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.12.1 If yes, furnish particulars.

.....  
 .....

3.13 Are any spouse, child or parent of the company's director's trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.13.1 If yes, furnish particulars.

.....  
 .....

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? **YES / NO**

3.14.1 If yes, furnish particulars:

.....

4. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	State Employee Number

.....  
Signature

.....  
Date

.....  
Capacity

.....  
Name of Bidder



## MBD 6.1

## PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

**NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.**

### 1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

- a) The value of this bid is estimated to **not exceed** R50 000 000 (all applicable taxes included) and therefore the **80/20** preference point system shall be applicable; or
- b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
<b>PRICE</b>	80
<b>B-BBEE STATUS LEVEL OF CONTRIBUTOR</b>	20
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.



B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

## 5. BID DECLARATION

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

## 6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: . = .....(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

## 7. SUB-CONTRACTING

Will any portion of the contract be sub-contracted?

**N/A**



**8. DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name \_\_\_\_\_ of  
company/firm:.....

8.2 VAT \_\_\_\_\_ registration  
number:.....

8.3 Company \_\_\_\_\_ registration  
number:.....

**8.4 TYPE OF COMPANY/ FIRM**

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....  
.....  
.....  
.....  
.....

**8.6 COMPANY CLASSIFICATION**

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

**8.7 MUNICIPAL INFORMATION**

**Municipality** \_\_\_\_\_ **where** \_\_\_\_\_ **business** \_\_\_\_\_ **is** \_\_\_\_\_ **situated:** \_\_\_\_\_

**Registered Account Number:** .....

**Stand Number:**.....

8.8 Total number of years the company/firm has been in  
business:.....

8.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the  
company/firm, certify that the points claimed, based on the B-BBE status level of  
contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies  
the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as  
indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown

in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
- (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution.

WITNESSES

1. ....

2. ....

.....

SIGNATURE(S) OF BIDDERS(S)

DATE: .....

ADDRESS .....

.....

.....



## DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
  - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?  (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).  <b>The Database of Restricted Suppliers now resides on the National Treasury's website(<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

4.2.1	If so, furnish particulars:		
<b>Item</b>	<b>Question</b>	<b>Yes</b>	<b>No</b>
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

MBD 8

**CERTIFICATION**

I, THE UNDERSIGNED (FULL NAME) ..... CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....  
**Signature**

.....  
**Date**

.....  
**Position**

.....  
**Name of Bidder**



## CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

---

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

**NOTICE**

MBD 9

**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

**TN004/2022:** TN004/2022 REPAIR AND RESURFACE **OF VARIOUS ROADS IN DAWID KRUIPER MUNICIPALITY**

in response to the invitation for the bid made by:

DAWID KRUIPER MUNICIPALITY

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_  
that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.

<sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....  
Signature

.....  
Date

.....  
Position

.....  
Name of Bidder



## 1 CONTRACT FORM - PURCHASE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

### 2 PART 1 (TO BE FILLED IN BY THE BIDDER )

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution)..... in accordance with the requirements and specifications stipulated in bid number..... at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
  - (i) Bidding documents, viz
    - Invitation to bid;
    - Tax clearance certificate;
    - Pricing schedule(s);
    - Technical Specification(s);
    - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
    - Declaration of interest;
    - Declaration of bidder's past SCM practices;
    - Certificate of Independent Bid Determination;
    - Special Conditions of Contract;
  - (ii) General Conditions of Contract; and
  - (iii) Other (specify)
3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.
5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) .....

CAPACITY .....

SIGNATURE .....

NAME OF FIRM .....

DATE .....

#### WITNESSES

1 .....

2. ....

DATE: .....



## **CONTRACT FORM - PURCHASE OF GOODS/WORKS**

### **3 PART 2 (TO BE FILLED IN BY THE PURCHASER)**

1. I ..... in my capacity as .....  
accept your bid under reference number .....dated.....for the supply of goods/works  
indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating delivery instructions is forthcoming.
3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of  
the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

<b>3.1 NO.</b>	<b>ITEM</b>	<b>PRICE (ALL APPLICABLE TAXES INCLUDED)</b>	<b>AND</b>	<b>DELIVERY PERIOD</b>	<b>B-BBEE STATUS LEVEL OF CONTRIBUTION</b>	<b>MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)</b>

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT .....ON.....

NAME (PRINT) .....

SIGNATURE .....

<b>OFFICIAL STAMP</b>
-----------------------

<b>WITNESSES</b>	
1.	.....
2.	.....
DATE	.....

**DAWID KRUIPER MUNICIPALITY****SECTION "F"**

## Annexures

Attach all annexures and documents to this page

1. Tax Clearance certificate
2. CSD registration
3. B-BBEE Certificate
4. Municipal account not in areas more than 3 months from date Tender Closure.
5. CIDB grading of 4CE or higher certificate to be attached.
6. Proof of similar scope related projects, at least two (2) construction projects successfully completed. Each project should indicate, a contactable reference, project value, responsible person, project description and signed completion certificate or reference letter. Kindly attach list of projects and completion certificates.
7. A list of suitable plant and equipment available for the duration of the contract.
8. Organogram of site personnel, e.g. contract manager, site agent, project engineer, project foremen, health and safety practitioner and traffic control officer. Kindly attach organogram and all CV's including suitable qualifications for all site personnel shown in organogram.
9. Kindly attach a project list (Five projects for asphalt and/or five for resealing works) of the responsible full time site manager, which indicates, contract name, contract description, contract value, contactable reference, position held and his /her responsibilities
10. Construction programme, considering non-working times and December break.

**DAWID KRUIPER MUNICIPALITY**

**SECTION "G"**

*Contract Data*

Please see Next Page

## **Amendments to General Conditions of Contract:**

The General Conditions of Contract for Construction Works (2<sup>nd</sup> Edition 2010) prepared by the South African Institution of Civil Engineering (SAICE) shall apply to and from the General Conditions of Contract for this contract. Copies of these conditions of contract are obtainable from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, and Tel:(011)8055947, Fax:(011)8055971, e-mail: civilinfo@saice.org.za.

Copies of the General Conditions of Contract are available for inspection and scrutiny at the offices of the Employer's Agent and the Engineer.

The General Conditions of Contract 2015 make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract.

The General Conditions of Contract shall be read in conjunction with the variations, amendments and additions set out in the "Data provided by the employer" below. Each item of data given below is cross-referenced to the clause in the General Conditions of Contract. Please note these are only amendments to selective clauses, the clauses not amended, will be applicable to this contract at all times.

The Contract Data and General Conditions of Contract shall have precedence over the Drawings, Scope of Work and Standardised Specifications in the interpretation of any ambiguity or inconsistency between these documents

### **DATA PROVIDED BY THE EMPLOYER**

<b>CLAUSE</b>	<b>DESCRIPTION / WORDING</b>
1.1	<p>Add the following new definitions at the end of Clause 1.1:</p> <p>1.1.35 "Conditions of Contract" mean the General Conditions of Contract for Construction Works 2<sup>nd</sup> Edition, 2010 and as amended in the Contract Data, Section G.</p> <p>1.1.36 "Schedule of Documents" means the documents so designated in and forming part of the Technical Specifications, Section H."</p>
1.1.15 & 1.2.1.2	<p>The Employer is, Dawid Kruiper Local Municipality</p> <p>The Employer's address for receipt of communications and notices is:</p> <p>Physical Address: Dawid Kruiper Local Municipality Mutual Street Upington Northern Cape</p> <p>Postal Address: Private Bag X6003 Upington, 8800 Telephone: (054) 338 7000</p>
1.1.16 & 1.2.1.2	<p>Project implemented internally – No client comprehensive body/firm.</p>
4.3	<p>Add the following new Clause after Clause 4.3.2:</p> <p>"4.3.3 The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the <b>Occupational Health and Safety Amendment Act, 1993 (Act 85 of 1993)</b>, hereinafter referred to as 'the Act', that the following arrangements and procedures will apply between them to ensure compliance by the Contractor with the provisions of the Act:</p>

CLAUSE	DESCRIPTION / WORDING
	<p>The Contractor undertakes to acquaint the <b>appropriate officials and employees</b> of the Contractor with all relevant provisions of the Act and the Regulations promulgated in terms of the Act.</p> <p>The <b>Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations on the Contractor will be fully complied with</b>. The Contractor accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from himself being obliged to comply with any of the aforesaid duties, obligations and prohibitions, with the exception of such duties, obligations and prohibitions expressly assigned to the Employer in terms of the Act and its associated Regulations.</p> <p>The Contractor agrees that any duly authorised officials of the Employer will be entitled, although not obliged, to take such steps as may be necessary to monitor that the Contractor has conformed to his undertakings as described in paragraphs (i) and (ii) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or any appropriate records or safety plans held by the Contractor.</p> <p>The Contractor will be obliged to report forthwith to the Employer and Engineer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract, and will, on written demand, provide full details in writing, to the Employer and Engineer, of such investigation, complaint or criminal charge.</p> <p>4.3.4 The Contractor will furthermore, in compliance with Constructional Regulations 2014 to the Act:</p> <p>(i) Acquaint him with the requirements of the Employer's health and safety specification as laid down in Regulation 5 of the Construction Regulation 2014, and prepare a suitably and sufficiently documented health and safety plan as contemplated in Regulation 7 of the Construction Regulations 2014 for approval by the Employer or his assigned agent. The Contractor's health and safety plan and risk assessment will be submitted to the Employer for approval within seven (7) days after the Commencement Date and will be implemented and maintained from the Commencement of the Works.</p> <p>(ii) The Employer, or his assigned agent, reserves the right to conduct periodic audits, as contemplated in the Construction Regulations 2014, to ensure that the Contractor is compliant in respect of his obligations. Failure by the Contractor to comply with the requirements of these Regulations will entitle the Engineer, at the request of the Employer or his agent, to suspend all or any part of the Works, with no recourse whatsoever by the Contractor for any damages incurred as a result of such suspension, until such time that the Employer or his agents are satisfied that the issues in which the Contractor has been in default have been rectified."</p>
4.3	<p>Add the following new Clause 4.3.5</p> <p>"With regard to the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993), where applicable, the Contractor will before commencement of the Works deliver to the Employer a letter, either</p> <p>(a) from his insurance company certifying that the Contractor has effected insurance with the company for the full extent of his potential liability in respect of all workmen employed by him on the contract and undertaking to notify the Employer of the expiry date of the policy at least one calendar month before such date, or</p> <p>(b) from the Compensation Commissioner certifying that the Contractor has complied with the requirements of the above-mentioned Act and is at present in good standing with the Compensation Fund."</p>
4.4.3	<p>The Employer will not select potential sub-contractors, the onus rest on the Contractor to procure suitable sub-contractors for the specified works.</p>
4.10.3	<p>Add the following after clause 4.10.2.</p>

CLAUSE	DESCRIPTION / WORDING
	4.10.3. The Contractor shall make use of local labour as far as possible where manual labour is required and remuneration must be paid according to the minimum wages for the region.
4.10.4	<p>Add the following clause after Clause 4.10.3</p> <p>The Contractor must provide adequate accommodation, offices and latrine facilities for his labour and employees and the Contractor shall bear all relevant associated costs for the duration of the contract. For the duration of the contract all latrines must comply to the relevant regulatory of local-, provincial and/or central government requirements and must be placed in such a manner that it will meet the Engineers approval. If at any time during the contract the Contractor fails to meet these requirements, the Engineer shall have the right to put in place all measures to rectify and/or provide adequate sanitary conditions, with all costs incurred hereto to be recovered from the Contractor.</p>
4.11.1	<p>Replace the first paragraph of Clause 4.11.1 with the following:</p> <p>"The Contractor will employ on for the purposes of the Contract, only such persons as are careful, competent and efficient in their several trades and callings."</p>
4.11.3	<p>Add the following after Clause 4.11.2:</p> <p>The site personnel indicated in Section F, will be expected on site personnel. If on site personnel differs to CV's provided in Section F, the Engineer may instruct the contractor to remove an employee that does not obtain the same qualifications nor experience that was requested during tender phase.</p>
4.12.1.	<p>The Site agent, declared as full time on site personnel, will be as follows: (As stipulated in Section F of this document)</p> <p>Site Agent:</p> <p>Name and Surname : _____</p> <p>Job Description : _____</p>
4.12.4.	<p>Add the following clause after Clause 4.12.3:</p> <p>It is not the responsibility of the Engineer or his Agent on site to act as Foreman or Surveyor of the works. The Contractor must employ qualified, experienced, trained and skilled Engineers, Foreman, Surveyors, Laboratory Assistants and/or any other type of key personnel required with the necessary equipment and instrumentation to their disposal in order to ensure that adequate management, control, and/or execution of the works is obtained during the duration of the contact.</p>
5.3.1	<p>The Contractor will commence executing the Works within fourteen (14) days after the Commencement Date (As specified under Section C, of this document).</p> <p>Replace " of documentation required" with "of the following documents before commencement with works:</p> <ul style="list-style-type: none"> <li>a) Health and Safety Plan</li> <li>b) traffic Control Plan (to be strictly adhered to)</li> <li>c) Performance Guarantee.</li> <li>d) Insurances and Public Liability/ letters of intent from Insurer.</li> <li>e) Construction Programme and detailed cash flow.</li> <li>f) Approval from Dept. of Labour for submitting "Notice for Construction of Work" and or Construction Works permit.</li> <li>g) Roles and responsibilities of employees listed within the organogram, submitted for approval. The approval of employees will be subject to Clause 4.11.</li> </ul> <p>Remove the following: execution, as set out in Contract Data.</p>
5.4.1	Between the wording "... Site," and "the location ...." in the second line, add the following:

CLAUSE	DESCRIPTION / WORDING
	"subject to the Contractor having an approved project specific health and safety plan in terms of the Occupational Health and Safety Act 1993: Construction Regulations 2014 and complied with the initial requirements thereof,"
5.4.4.	<p>Add the following clause after Clause 5.4.3: Clause 5.4.4:</p> <p>The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by him for the purposes of the Works.</p> <p>These special and temporary rights refer to and limited to, approvals such as wayleaves, as built information, land usage permissions, local business permissions,</p>
5.5.1	No portions or parts of works will be considered for practical completion.
5.6.1	The Contractor will deliver his construction programme within fourteen (14) days after the Commencement Date in accordance to Clause 5.6.2 and in relation to the technical specifications in section G.
5.8	<p>Delete the words "between sunrise and sunset" in the first line and replace with "within normal working hours".</p> <p>Add the following:</p> <p>"Normal working hours will be between 7h00 and 18h00. The cost of supervision by the Engineer or his representatives outside of normal (Monday to Saturday) working hours in accordance with this Clause will be for the Contractor's account".</p>
5.8.1	<p>Embargo commences on 1 May 2022 to 31 August 2022.</p> <p>SAFCEC Scheduled break between 13 December 2022 and 7 January 2023 and for a day before, after and during the Easter Weekend of 2022.</p>
5.9.1.	<p>Add the following to the clause:</p> <p>"The drawings shall remain the property of the employer and the Contractor will sign receipt for the acceptance thereof. The copyright on all documents remains with the employer and no drawings or parts thereof may be duplicated without approval by the Engineer."</p>

CLAUSE	DESCRIPTION / WORDING
5.12.2.2	<p>Add the following to Clause 5.12.2.:</p> <p>The time period specified as the time for completion includes allowances for delays and days on which it is expected that work, on the critical path items of the Works, would be prevented due to normal weather conditions such as wind, rainfall or the subsequent waterlogged condition.</p> <p>Based on average weather conditions of wind, rain and sunshine the allowances are actual and consequential delays will be as follows:</p> <ul style="list-style-type: none"> <li>• 4 working days per month for the months of April to August</li> <li>• 3 working days per month for the months of September to March</li> </ul> <p>If the Contractor has been prevented by these weather conditions from working on the critical path items of the Works, then he must notify the Engineer in writing. The submission will be made within five calendar days of the resumption of work. The Engineer will upon considering all the relevant factors determine the extension of time to be granted on the basis that an extension of time to the Contract will only be granted if the total number of days upon which work on the critical items was prevented, exceeds the total number of days calculated in terms of the above allowance and considering the official contract period as a whole.</p> <p>The tendered sums of the appropriate time-related items will be increased to take account of the extensions of time granted for only extension of time approved.</p> <p>The Employer may only approve time without cost.</p>
5.12.5	<p>Add the following clause after 5.12.4:</p> <p>Clause 5.12.5:</p> <p>Extension of Time due to delays and abnormal climatic conditions will be dealt with as determined by the Engineer. The Contractor shall be responsible to specify his claim with regard to the amount and type of resources involved. Only items on the critical path shall be considered and payment for time related cost will be subject to the decision of the Engineer. The Contractor must adhere to the following conditions:</p> <p>Sub Clause 5.12.5.1</p> <p>Only items that occurs on the critical path and which will have a significant influence on the completion date shall be considered.</p> <p>Sub Clause 5.12.5.2</p> <p>The Contractor must, after submitting the necessary proof and documentation to the Engineer, reach an agreement on site between himself and the Engineer with regard to the reasons and duration of the delay.</p> <p>Sub Clause 5.12.5.3</p> <p>The Contractors is responsible to provide all supporting documentation in order to substantiate any claim for delay. Any claim will only be considered if the Contractor informed the Engineer in writing, within twenty eight (28) days from the start of such a delay, to the cause and duration of the delay.</p>
5.13.1	The penalty for failing to complete the Works is <b>R 1000 per calendar day.</b>
6.2	The successful bidder will furnish the Engineer with a Performance guarantee to a value of 10% from a commercial bank or an approved insurer within the fourteen days (14) after commencement date.
6.3.4.	<p>Add the following after clause 6.3.3.:</p> <p>The Employer retains the right to revise the scope of works to suite the available funding, if tender offers surpass the allocated available funding, the employer reserve the right to</p>



CLAUSE	DESCRIPTION / WORDING
	reduce the specified scope of works provided within the tender, without notice or consent from the contractor.
6.5.1.1.	Replace " Pricing Data" with Section C, Section D and Technical Specifications, Section H.5.3
6.8.2	Contract Price Adjustment will not be applicable.
6.8.3	Price adjustments for variations in the cost of special materials will not be allowed on this Contract.
6.10.1.3	Replace the contents of Clause 6.10.1.3 with the following: "Any amounts, by addition or deduction, to those referred to in this Clause which are due to the Contractor or the Employer and will include the deduction of penalties in terms of Clause 5.13.1."
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. This percentage can be decreased on written consent from the contractor.
6.10.3	The percentage retention on the amounts due to the Contractor is 10% of interim payment certificates up to a limit of 5% of the Contract Price. Retention applies to the whole contract including any sum for sub-contracting.
6.2.1	A retention money guarantee is not permitted.
6.3.3.	Add the following sub clauses after Clause 6.3.3: <b>Sub clause 6.3.3.1:</b> The Employer serves the right to alter (reduce or increase) the scope of works after tender stage and appointment.
6.6.1	In the second line of sub clause 6.6.1.2, after the words "sum or sums" insert the words " , excluding VAT," In the first line of sub clause 6.6.1.2.1, after the words "sum or sums" insert the words " , excluding VAT," In the fourth line of sub clause 6.6.1.2.2, after the words "amount" insert the words " , excluding VAT,".
7.1.1	Add the following at the end of Clause 7.1.1: "Unless otherwise directed in writing by the Engineer, all materials for the Permanent Works will be new and unused."
7.8.1	The Defects Liability Period is 12 calendar months after the issue of a Certificate of Completion.
8.6.1	The contractor should provide proof of insurances for the duration of the contract as stipulated in 8.6 and hereunder
8.6.1.1	The value of materials supplied by the Employer amounts to Zero rand. (R 0,00)
8.6.1.1	The amount to cover professional fees in terms of this Clause amounts to: 0% of the original Contract Price.
8.6.1.2	Coupon policy for special risks insurances will be required.
8.6.1.3	The limit of liability will be R 5, 000,000.  Add the following to Clause 8.6.1.3 "The minimum amount of insurance required in terms of this Clause will be per event, the number of events being unlimited. In accordance with the Compensation Injuries ad Diseases Act No 130 of 1993."
8.6.1.5	None.
8.6.1.6.	Add the following clauses after 8.6.1.5.  8.6.1.6.. All movable assets owned, hired or leased should be insured for Fire and Allied Perils and /or Motor Comprehensive and /or Plant all risk and/ or Third party liability.
8.6.6	The insurance policies and proof of due payment will be produced to the Engineer within seven (7) days after the Commencement Date.
8.6.8	Add the following new Clause 8.6.8  "In the event of any claim arising under the policies held in terms of this Clause, the Contractor will forthwith take all necessary steps to lodge his claim on the joint behalf of himself and the Employer, and to secure settlement of such claim, and he will submit to the Engineer copies of all claims and associated documents.

CLAUSE	DESCRIPTION / WORDING
	The claim submitted by the Contractor will cover the cost of repairing and making good as required in terms of Clauses 8.2.1 and 8.2.2."
9.1.2	<p>Replace the contents of Clause 9.1.2 with the following:</p> <p>"Up to the time of termination of the Contract by either party in terms of this Clause, or until the Contractor gives notice in terms of this Clause to terminate the Contract and the Contractor is precluded from exercising his right to terminate the Contract because the Employer agrees to bear any resultant additional costs provided for in Clause 4.2.2 hereof, the Contractor:</p> <ul style="list-style-type: none"> <li>a) will be entitled to an extension of calendar time for working days lost as may be approved by the Engineer, and</li> <li>b) will be reimbursed the cost of delays per working day, where the number of working days will be determined pro rata the effect the delays have on the progress of the work as agreed with the Engineer. Payment in full and final settlement will be made at the rates tendered for the payment items specially provided in the Bill of Quantities.</li> </ul> <p>Where the circumstances described in Clauses 9.1.1 are applicable only to a certain portion of the Contract, the Engineer will decide after consulting the Contractor, to what extent the Contract as a whole is affected and whether or not a claim in terms of this Clause can be submitted.</p> <p>No payment will be made in terms of this Clause after the expiry of the Due Completion Date."</p>
10.4 & 10.5	Dispute resolution will be by amicable settlement or adjudication, as so decided by both parties in writing.
10.7	The determination of unresolved disputes in terms of Clauses 10.4 & 10.5 will be referred for final settlement to arbitration.
10.7	Special disputes will be referred for final settlement to arbitration.

**DAWID KRUIPER MUNICIPALITY**

**SECTION "H"**

*Technical Specifications*

Please see Next Page

TABLE OF CONTENTS – TECHNICAL SPECIFICATION

	<b>INTRODUCTION .....</b>	<b>72</b>
	<b>SCHEDULE OF DOCUMENTS FOR THE TECHNICAL SPECIFICATION .....</b>	<b>72</b>
	<b>SCOPE OF WORK .....</b>	<b>74</b>
	<b>LOCALITY.....</b>	<b>74</b>
<b>1.</b>	<b>BACKGROUND.....</b>	<b>74</b>
<b>2.</b>	<b>CLIMATE.....</b>	<b>74</b>
<b>3.</b>	<b>DESCRIPTION OF THE SCOPE OF WORK .....</b>	<b>76</b>
<b>3.1</b>	<b>GENERAL .....</b>	<b>76</b>
<b>3.2</b>	<b>ROAD DESCRIPTION.....</b>	<b>76</b>
<b>3.3</b>	<b>CURRENT LAYER WORKS AND SURFACING .....</b>	<b>77</b>
<b>3.4</b>	<b>ADDITIONAL INTERSECTIONS .....</b>	<b>77</b>
<b>3.4.1</b>	<b>PROPOSED TREATMENT AND SURFACING .....</b>	<b>77</b>
<b>3.4.2</b>	<b>MATERIAL SOURCES .....</b>	<b>78</b>
<b>3.4.3</b>	<b>PROJECT SPECIFICATIONS .....</b>	<b>79</b>
<b>3.4.4</b>	<b>INTRODUCTION .....</b>	<b>79</b>
<b>3.4.5</b>	<b>SCOPE .....</b>	<b>79</b>
<b>3.4.6</b>	<b>STATUS .....</b>	<b>79</b>
<b>4.</b>	<b>AMENDMENTS TO THE STANDARDIZED SPECIFICATIONS .....</b>	<b>80</b>
<b>4.1</b>	<b>WORK IN RESTRICTED AREAS.....</b>	<b>0</b>
<b>4.1.1</b>	<b>OTHER DEFINITIONS” .....</b>	<b>0</b>
<b>4.1.2</b>	<b>SABS SPECIFICATIONS .....</b>	<b>1</b>
<b>4.2</b>	<b>AGGREGATE SIZE.....</b>	<b>1</b>
<b>B1155</b>	<b>COMPACTION .....</b>	<b>2</b>
<b>B1156</b>	<b>COMPACTION .....</b>	<b>2</b>
<b>B1158</b>	<b>SERVICES .....</b>	<b>3</b>
<b>B1159</b>	<b>ROAD INTERSECTIONS AND JUNCTIONS.....</b>	<b>3</b>
<b>B1160</b>	<b>PROGRAMME OF WORK.....</b>	<b>3</b>
<b>B1161</b>	<b>WORKMANSHIP AND QUALITY CONTROL .....</b>	<b>6</b>
<b>B1200</b>	<b>THE SETTING OUT OF WORK AND PROTECTION OF BEACONS .....</b>	<b>7</b>
<b>B1203</b>	<b>NOTICES, SIGNS AND ADVERTISEMENTS .....</b>	<b>8</b>
<b>B1204</b>	<b>MEASUREMENT AND PAYMENT .....</b>	<b>8</b>
<b>B1205</b>	<b>CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS.....</b>	<b>8</b>
<b>B1206</b>	<b>VARIATION FROM SPECIFIED NOMINAL RATES OF APPLICATION OR NOMINAL MIX PROPORTIONS .....</b>	<b>9</b>
<b>B1207</b>		
<b>B1209</b>		
<b>B1210</b>		
<b>B1213</b>		

B1214	CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED.....	9
B1215	EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL.....	10
B1219	WATER .....	12
B1227	MONTHLY SITE MEETINGS.....	14
B1229	SABS CEMENT SPECIFICATIONS.....	14
"B1230	MATERIALS .....	14
B1231	MIX DESIGNS .....	15
B1232	CONSTRUCTION CAMP SITE.....	15
B1233	HEALTH AND SAFETY REGULATIONS .....	16
B1234	ENVIRONMENTAL MANAGEMENT .....	16
B1235	SITE PRESERVATION .....	17
B1236	GENERAL SITE REGULATIONS.....	17
B1237	MEASUREMENT AND PAYMENT .....	18
B1302	GENERAL REQUIREMENTS .....	19
B1303	MEASUREMENT AND PAYMENT .....	19
B1501	SCOPE.....	21
B1502	GENERAL REQUIREMENTS .....	21
B1503	TEMPORARY TRAFFIC CONTROL FACILITIES.....	24
B1504	WIDTH AND LENGTH OF TEMPORARY DEVIATIONS .....	28
B1517	MEASUREMENT AND PAYMENT .....	29
"B1519	ACCOMMODATION OF PEDESTRIAN TRAFFIC.....	32
B1603	COST OF SPOILING AT MUNICIPAL LANDFILL SITE:.....	33
B1704	MEASUREMENT AND PAYMENT: .....	34
B1801	SCOPE.....	35
B1802	GENERAL REQUIREMENTS .....	35
B1803	LABOUR.....	35
B1804	MATERIALS .....	36
B1805	PLANT.....	36
B1806	MEASUREMENT AND PAYMENT .....	37
B2307	SCOPE.....	39
B2307	MEASUREMENT AND PAYMENT .....	39
B3801	SCOPE.....	40
B3807	MEASUREMENT AND PAYMENT .....	40
B3901	SCOPE.....	41

B3907	MEASUREMENT AND PAYMENT .....	41
"B3908	CONSTRUCTION TOLERANCES, FINISH REQUIREMENTS AND RESTRICTIONS .....	43
B4202	MATERIALS .....	44
B4203	COMPOSITION OF ASPHALT BASE AND SURFACING MIXTURES .....	49
B4205	GENERAL LIMITATIONS AND REQUIREMENTS AND THE STORAGE OF MIXED MATERIAL .....	53
B4208	JOINTS .....	54
B4211	LAYING A TRIAL SECTION .....	54
B4215	MEASUREMENT AND PAYMENT .....	54
B4301	SCOPE .....	56
B4302	MATERIALS .....	56
B4303	PLANT AND EQUIPMENT .....	64
B4304	GENERAL LIMITATIONS AND REQUIREMENTS .....	65
B4305	HEATING AND STORAGE OF BITUMINOUS BINDERS .....	65
B4306	STOCKPILING OF AGGREGATE .....	67
B4307	CONSTRUCTION OF SEAL .....	67
B4308	RATES OF APPLICATION .....	69
B4314	TOLERANCES AND FINISH REQUIREMENTS .....	69
B4402	MATERIALS .....	71
B4403	CONSTRUCTION .....	71
B4404	MEASUREMENT AND PAYMENT .....	71
B4804	SLURRY .....	72
B4802	MEASUREMENT AND PAYMENT .....	72
B4802	MATERIALS .....	72
B4803	PLANT AND EQUIPMENT .....	72
B4804	CONSTRUCTION .....	72
B4807	MEASUREMENT AND PAYMENT .....	72
B5701	SCOPE .....	72
B5702	MATERIALS .....	72
B5704	MECHANICAL EQUIPMENT FOR PAINTING .....	74
B5705	SURFACE PREPARATION .....	74
B5706	SETTING OUT THE ROAD MARKINGS .....	74
B5707	APPLYING THE PAINT .....	74
B5708	APPLYING THE RETRO-REFLECTIVE BEADS .....	75
B5710	TOLERANCES .....	76

B5711	GENERAL .....	76
B5712	FAULTY WORKMANSHIP OR MATERIAL.....	76
B5713	PROTECTION .....	77
B5714	MEASUREMENT AND PAYMENT .....	77
B5901	SCOPE.....	77
B5902	FINISHING THE ROAD AND ROAD RESERVE .....	77
B5904	MEASUREMENT AND PAYMENT .....	77
	PREPARATION OF TENDER DOCUMENTS .....	77
	PROGRAMME.....	77
	SCHEDULE OF DRAWING.....	77
5.	SCHEDULE OF QUANTITIES.....	77
5.1		
5.2	PREAMBLE TO THE SCHEDULE OF QUANTITIES .....	77
5.3	GENERAL .....	77
5.3.1		
5.3.1.1	DESCRIPTION OF ITEMS IN THE SCHEDULE .....	77
5.3.1.2	QUANTITIES REFLECTED IN THE SCHEDULE.....	77
5.3.1.3	PRICING OF THE SCHEDULE.....	77
5.3.1.4	MONTHLY PAYMENTS .....	77
5.3.1.5		
5.3.1.6	UNITS OF MEASUREMENT .....	77

## INTRODUCTION

*Tender for routine maintenance, Asphalt overlays and reseal actions to central business roads within Upington, Northern Cape Province, South Africa, as indicated in **Figure 3.1**.*

**Schedule of Quantities, Section C and Section D are to be completed in accordance with the conditions included in this document.**

1.

### Information Only

*All data and descriptions contained in this section of the document are given for information purposes only and cannot be interpreted as prescriptive or as an instruction despite the fact that the text may give the opposite perspective. If any conflict arises between the content of this section and other sections of the document, the latter take precedence*

## SCHEDULE OF DOCUMENTS FOR THE TECHNICAL SPECIFICATION

The following documents form part of the **Technical Specification**:

2.

(a) Scope of Work:

- Locality
- Background
- Climate
- Description of the Works

(b) Project Specifications

(c) The Standard Specifications for Road and Bridge Works for State Road Authorities (1998 Edition)" (COLTO) (Not included in this document), with specific emphasis on the following:

SECTION B1100	:	Definitions and Terms
SECTION B1200	:	General Requirements and Provisions
SECTION B1300	:	Contractors' Establishment on site and General Obligations
SECTION B1400	:	Housing, Offices and Laboratories for the Engineer's Site Personnel
SECTION B1500	:	Accommodation of Traffic
SECTION B1600	:	Overhaul and Plant
SECTION B1800	:	Day works
SECTION B2300	:	Concrete kerbing, Concrete Channelling, Chutes and Downpipes, and Concrete Linings for Open Drains
SECTION B3200	:	Selection, stockpiling & breaking down the material from borrow pits, cutting and existing pavement layers and placing and compacting the gravel layers
SECTION B3800	:	Breaking up Existing Pavement Layers



SECTION B3900	:	Patching and Repairing Edge breaks
SECTION B4200	:	Asphalt Base and Surfacing
SECTION B4300	:	Seals, Materials and General Requirements
SECTION B4400	:	Single Seals

## SCOPE OF WORK

### LOCALITY

The identified internal streets are located in the Upington area, Northern Cape Province, South Africa, as indicated in **Figure 3 1: Site Locality** (Map Data from Google, 2022).

3.

3.1



**Figure 3 1: Site Locality (Map Data from Google, 2022)**

3.2

### BACKGROUND

The Project aims to conduct routine maintenance or reseal actions to identified streets in Upington for Dawid Kruiper Municipality.

Routine maintenance may be defined as those treatments that are applied to streets, in order to keep the streets functioning properly. This suggests that it is work that is performed as a reaction to a specific distress for example potholes. Routine maintenance is performed on streets as they begin to show signs of deterioration, but is generally considered to be a wasted effort, if streets are severely distressed. Distressed streets will require a more comprehensive repair which includes edge breaking, crack sealing and re seal by means of a single seal and/or proposed slurry mix.

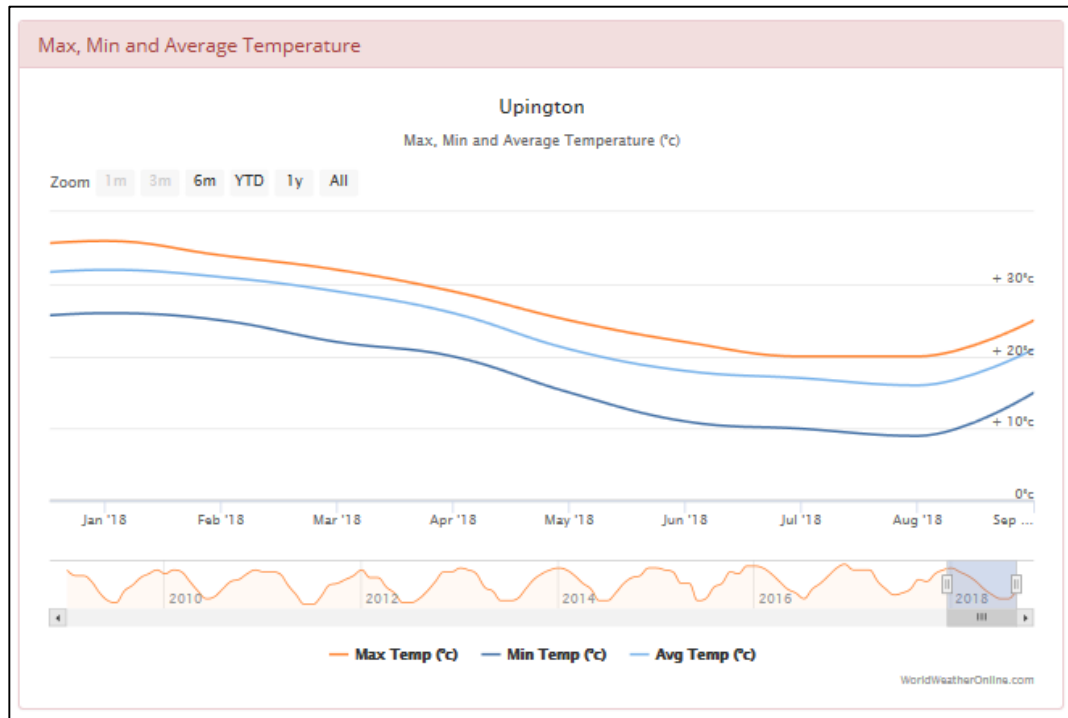
3.3

### CLIMATE

Upington is situated along the northern bank of the Orange River. The terrain is mainly a combination of level and rolling terrain. It can be classified as a dry area with a Weinert N-value of between 30 and 40. Average monthly temperatures vary between 35°C and 18.7°C in January and between 20.8°C and 3.3°C during July.

The high daytime temperatures may be favourable for seal work over the majority of the 12-month period, however the temperature drops from April. It must be noted that the expected maximum road temperature should not exceed 30°C nor reduce to below 10°C for several hours during the application period. There is a risk of extremely low night-time temperatures, which will pose a risk to seals due to the sudden difference in road temperatures.

Kindly refer to **Figure 3-2** for the minimum, maximum and average temperatures to consider during construction of reseal works.



**Figure 3 2: Temperatures (World Weather Online, 2018)**

The average rainfall in Uppington is 201.7 mm per annum. The table below provides the monthly rainfall averages, as measured at, Rainfall Station No. 0317475A8 - Uppington, for the period between 1992 and 2010.

Month	Rainfall (mm)	Month	Rainfall (mm)
January	37.0	July	3.9
February	32.1	August	0.9
March	39.8	September	3.6
April	16.6	October	18.7
May	9.6	November	16.6
June	3.7	December	19.3
Average Rainfall (mm)		201.7	

*It is not anticipated that rainfall will be the cause of delays in the construction programme.*

## DESCRIPTION OF THE SCOPE OF WORK

The description of the works shall inter alia contain the following particulars regarding the work to be constructed and maintained under the contract.

### GENERAL

3.4 The roads identified for the scope of these works are situated within the town of Upington in the Northern Cape Province. It falls within the ZF Mgcawu District Municipality and the Dawid Kruiper Local Municipality.

3.4.1 The extent of this contract is approximately 5km of roads and intersections within Upington, in need of routine maintenance or resurfacing. The following table provides the envisaged scope of this contract:

No	Identified Road	Description of Work
1	Dr Nelson Mandela	Concrete works at the Circle, Interlocks Paving at incoming lanes, Patches, Stormwater Drainage system
2	Dakota Weg	Repair bridge deck asphalt rutting on expansion joints, Patching, Minor concrete repairs at intersection of Swartmodder and Dakota, 8SAI turn
3	Keimoes Weg Olifanthoek Road	Edge breaks repairs, Construction of shoulder
4	Updustria Road	Patching, Edge Break repairs
5	. Leeukop Str/Oranjeweg	Patching, Overlays
6	Groenpuntweg King Str	Patching
7	Toekoms/Swartmodder intersection Swartmodder/Swakar	Potholes repair and overlays
8	Trek Str, Vooruit Str Dakota Road to the Omega Str Groeg Single Isis Str Fingk Str JG Smith Str Cornelluis Jansen Str. Boswewer Stoffel Str to the turn of Tieroog Str	Further street to be repaired

3.4.2

### ROAD DESCRIPTION

The roads identified in this contract primarily consists of major collector roads for business with a class T2 traffic. These roads identified are also used for drive through major arterial roads which provides access to Grobershoop, Olifantshoek and the Kgalagadi Transfontier Parks. The roads are constantly used by heavy vehicles.

### Existing Cross Section

The existing cross-sections therefore vary, depending on the road type. The roads offer two main cross-sectional types:

- A 14m wide surfaced width and additional on-street parking; or
- A divided dual roadway with  $\pm 4$ m wide surfaced lanes and a 10m wide median.

3.4.2.1

The roads are approximately 3.7m wide surfaced roadway.

### CURRENT LAYER WORKS AND SURFACING

#### Type of Surfacing

3.4.3 The surfacing types vary along the different roadways.

#### 3.4.3.1 ADDITIONAL INTERSECTIONS

3.4.4 The following interchanges may be included within the scope of works for Repair and Asphalt Overlays, whereby the remaining roads will be considered for Resealing, please see Locality Map in **Section H, Appendix A:**

Road Reference Number	Intersection
A	
B	

#### 3.4.5 PROPOSED TREATMENT AND SURFACING

3.4.5.1 The following treatments are proposed for the reseal actions along the above-mentioned roads

#### Base Patching

3.4.5.2 The road surface repair works will include localised base patching of the existing pavement indicating failures. Base repair works will consist of two types of patching, namely BSM1 and BTB base repair. The BSM base repair will comprise of by excavating or milling out a minimum of 40mm of the existing pavement, compacting the in-situ/ imported material and constructing a BSM1/ BTB base repair, stabilised with 3.3% SS60 and 1% cement. Thereafter, overlaying with a 14mm single seal grade 1 aggregate and 1<sup>st</sup> slurry layer of medium grade slurry with 65% spray grade emulsion. The BTB base repair will comprise of excavating/ milling out a minimum of 30mm of the existing pavement, compacting of imported asphalt base mixed with 28 Max size aggregate to form a concrete base. The concrete base will be surfaced with a continuously grade medium A- E2 modified asphalt and rolled at prescribed temperatures.

#### Crack Seal

Long continuous and isolated cracks will be sealed using a Class C-R1 modified binder hot applied crack sealant.

### **Fog Spray**

Fog spray isolated locations to improve sealing, waterproofing and/or prevent further stone loss. A diluted 65% cationic spray grade emulsion will be used.

### **Asphalt overlay at Intersections**

3.4.5.3

After repair works on intersections a new asphalt overlay will be construction with modified A-E2 Asphalt max aggregate size 14mm.

3.4.5.4

The transport and handling of asphalt will be the responsibility of the contractor. The temperatures should be maintained and ensured during construction, as per the requirement of the specifications.

### **Surface Seal**

3.4.5.5

On completion of the remedial measures, the high trafficked roads will get a 14mm single seal, modified with New Crumb Rubber Technology (NCRT).

### **MATERIAL SOURCES**

3.4.6

The following commercial sources are located within the acceptable distance from this project:

- Upington – IDADA Trading / Poort Beton
- Kimberley – OMV Crushers (410km)
- Kimberley – Raumix Kimberley Quarry (410km)
- De Aar – De Aar Stone Crushers CC. (435km)
- Bloemfontein - Much Asphalt (575km)
- Kimberley – Crown Asphalt (410km)
- Kathu -Tzoneva Asphalt (230km)

The following commercial sand and fill sources are located within Upington:

- Van Zyl's Blasting – Mr Wouter Van Zyl (082 445 6812 / 054 332 3012)
- IDADA Trading / Poort Beton – Mr Jaco Strauss (082 774 2590)

Water sources:

- It is proposed that the water required for construction purposes should be procured from the Upington Department of Water Affairs or any other Municipal sources.

Bituminous Products:

- The bituminous products will have to be sourced directly from COLAS (Johannesburg) or TOSAS (Bloemfontein), unless there is a local supplier closer to Upington.

## PROJECT SPECIFICATIONS

### INTRODUCTION

#### SCOPE

This Project Specification comprises of three sections:

4.

4.1

4.1.1

- General description of the requirements to be met and a list of the design briefs and Standardised and Particular Specifications applicable to this Contract;
- Variations and additions to the Standardised Specifications that are applicable to this Contract; and
- The Particular Specifications applicable to this Contract are bound herein under this section and these form part of the Project Specification of this Contract.

#### STATUS

4.1.2

The Project Specification supplements the Standardised and Particular Specifications and forms an integral part of the Contract. Unless otherwise stated, these Specifications are additional to, and should be read in conjunction with the Standardised Specifications.

## AMENDMENTS TO THE STANDARDIZED SPECIFICATIONS

- 4.2
- i. The Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition) prepared by the Committee of Land Transport Officials, (COLTO), as amended, shall apply to this contract. The amendments are those issued by COLTO and included in the Project Specifications contained in this document.
  - ii. Where reference is made to the General Conditions of Contract and sub-clauses thereof in the abovementioned Standard Specifications, they refer to the appropriate edition of the 'General Conditions of Contract for Road and Bridge Works for State Road Authorities' issued by COLTO
  - iii. General Conditions of Contract applicable to this contract are the "General Conditions of Contract for Construction Works 2010 2<sup>nd</sup> Edition (GCC), published by the South African Institution of Civil Engineering (SAICE) and the necessary amendments to the Standard Specifications have been made and included in the Project Specifications contained in this document.
  - iv. The terms "Schedule of Quantities", (used throughout the Technical Specifications) and "Bill of Quantities", (used in all other documents forming part of this contract), and "Pricing Schedule" are synonymous.
  - v. 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.
  - vi. The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new series, new clause or a new payment item which does not form part of a series, clause or a payment item in the standard specifications and which is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

*"As at 15 October 2018, no amendments have been issued."*



**COLTO SERIES 1000: GENERAL****SECTION 1100: DEFINITIONS AND TERMS****B1155 WORK IN RESTRICTED AREAS**

*Add the following:*

“Any omission of pay items from the pricing schedule with regard to additional or extra over payment for work in restricted areas should be regarded as deliberate and any additional cost incurred shall be included in the bulk rates tendered. (Refer also to clause B1209 (g))”

*Add the following clauses:*

**B1156 OTHER DEFINITIONS”**

The COLTO Standard Specifications for Roads and Bridge Works for State Road Authorities (1998 edition) has been written for all contractors, employers and engineers. Similarly, the works and the site are not defined and the general nature of the entities and elements that collectively constitute construction under a contract are characterized by the use of lower case letters throughout.

These project specifications continue to use lowercase spellings in order to avoid the appearance of the capitalised and non-capitalised words to describe or prescribe the same elements of work required on this project. However, for the purposes of this contract the following definitions shall apply:

**Contractor**

The Contractor and the contractor is the same persona defined under *clause 1.1.1.9 of the General Conditions of Contract for Construction Works 2<sup>nd</sup> Edition (2010)*, but who will only be formally identified by the completed form shown under Section C of this document and which will be bound into the final contract document.

**Employer**

The Employer and employer is the same persona and is defined in *clause 1.1.1.15 of the General Conditions of Contract for Construction Works 2<sup>nd</sup> Edition (2010)* and as shown below:

- Contact Person: Gregory Mnganga / Robertino Diergaardt  
Contact Number: 054 338 7000 / 054 338 7061

Directorate Civil Engineering Services  
Dawid Kruiper Municipality  
Mutual Street  
Upington  
8800

**Engineer**

The Engineer and engineer is the same persona and is defined *clause 1.1.1.16 of the General Conditions of Contract for Construction Works 2<sup>nd</sup> Edition (2010)* and as shown below:

### Site

The site is defined in *clause 1.1.1.29 of the General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition (2010)*. It is bound by the limits of construction, as shown in the drawings or the title of the project, and extends to include the following:

- Areas outside the construction zone areas where accommodation of traffic is placed.
- All borrow pits defined in the applications approved by the relevant Department of Minerals and Energy or given from Dawid Kruiper Municipality.
- All quarries approved by the Dawid Kruiper Municipality, which is assumed all licences are not permits are in place.
- All haul roads constructed or used by the contractor for purposes of access.
- Any non-adjacent sites specified in the contract documentation.
- The contractors and his subcontractors camp sites

### Works

The works is described in *Section H* of this document and is as defined in clause 1.1.1.33 of the General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition (2010) and prescribed in Sections B, C, D, E, F and Section G of this document.

### Prime cost

Is a specific type of Provisional Sum for which payment is made on the production of invoices showing the cost price of the implementation or installation of the service required. Services rendered in this manner carry a mark-up for which a rate is offered at tender stage to cover all the tenderer's handling, supervision and liability costs and profit in providing the item or services.

### Provisional Sum

Is a sum, which is specified in the contract as a provisional sum, for the execution of any part of the works or the supply of plant, materials or services under sub-clause 13.5 (Provisional sums).

## **B1158 SABS SPECIFICATIONS**

Where reference is made in this specification or the standard specifications to SABS specifications, the latest published national standard shall be applicable. Use:

<https://www.sabs.co.za/index.asp> for the most up-to-date versions of the various standards.

## **B1159 AGGREGATE SIZE**

Where reference is made in this specification or the standard specifications to aggregate size, nominal aggregate size or maximum aggregate size, the aggregate size as listed shall be replaced with the new corresponding aggregate size as indicated in the following table:

Aggregate size	New aggregate size
26,5	28

Aggregate size	New aggregate size
19	20
13,2	14
9,5	10
6,7	7
4,75	5
2,36	2
1,18	1

#### **B1160 COMPACTION**

In December 2017, the TMH1 will cease to exist and be replaced by SANS 3001. In preparation for this change-over, all site Laboratories are required to perform testing according to the SANS 3001 test methods.

Therefore, the standard for compaction efforts should change from Modified AASHTO Density as per TMH1 Test Method to Maximum Dry Density (MDD) as per SANS 3001. Where reference is made to compaction or of Modified AASHTO Density in the tender documentation or the standard specifications or wherever there is conflict between the tender documentation and the standard specifications, the SANS 3001 specification and terminology shall govern.”

#### **B1161 COMPACTION**

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-BT3:2014 - Anionic Bitumen Road Emulsion
- SANS 4001-BT4:2014 - Cationic Bitumen Road Emulsion
- SANS 4001-BT5:2014 - Inverted Bitumen Emulsion

On this contract where a SANS specification exists, all products shall conform to the specification and shall bear the inspection seal or brand mark of the SABS (South African Bureau of Standards).”

## **SECTION 1200: GERNERAL REQUIREMENTS AND PROVISIONS**

### **B1200 SERVICES**

Any cost of repairs, replacement and/or installation of the stations and equipment resulting from the contractor's negligence or unauthorised action shall be to the contractor's account."

### **B1203 ROAD INTERSECTIONS AND JUNCTIONS.**

*Add the following paragraph after "farm accesses" and prior to "and".*

"Four way, three way stops "

### **B1204 PROGRAMME OF WORK**

#### **a) General requirements**

*Add the following as a continuation of the first paragraph:*

"In drawing up the programme the contractor shall make allowance for the following:

- i) All special non-working days.
- ii) The expected delays defined in B1215: Extension of time resulting from inclement weather as a terminal float.
- iii) The following embargo hours and days:
  - o The contract will not exceed 6 months.
  - o No permanent surfacing seals shall be constructed between the period of 1 May 2019 to 31 August 2019 and the completion of the new seal on or before 30 April 2019 is a listed milestone.
  - o Patches and slurry surface texture treatment shall be left open to the public traffic and the atmosphere for at least 6 weeks to oxidise before it may be overlaid.
  - o For daylight closures the maximum periods during which certain lanes may be closed are 1 hour after sunrise and 1 hour before sunset.
  - o The period for daylight working hours are guidelines only and the engineer will change the period to suite public holidays and other conditions
  - o Allowance should be made for the SAFCEC Scheduled break between 13 December 2022 and 7 January 2023 and for a day before, after and during the Easter Weekend of 2022 for which no extra time will be granted.
- iv) The following restricted working conditions:
  - o During the contractor's annual shutdown period between December and January, the contractor shall maintain two-way traffic within the contract limits.
  - o Work may only proceed behind barricaded-off working areas, where working areas are subject to specified rules.
  - o The public traffic shall be disrupted as little as possible. Closure of the lanes over certain time periods will not be allowed.
  - o There are weather limitations during which no asphalt work and seal work may be possible. Except for the embargo on seal work during the winter months (1 May to 31 August) special allowance must be made for the other cold days outside this period.

- Night time closures approach areas shall be well lit and be provided with traffic signals as directed by the engineer.
  - The programme should allow for other existing contracts. Special care should be taken to ensure the programme allows for the application of texture slurry in parallel with other preparatory works as the completion of the pre-treatment work will be critical in the successful completion of this project.
  - The compiler shall list here any restrictions relating to construction sequences or methods, e.g. maximum lengths of a work zone, distances between simultaneous or adjacent work zones, stop/go or other accommodation of traffic conditions, curing times etc. Alternatively, reference may be given here to the relevant clause in section 1500, 3900, 4800, 6400 et al, where such conditions are imposed.
- v) Meeting the requirements of the Environmental Management Plan (EMP).
- vi) The time needed for preparation and approval of the various mix designs specified in the relevant construction sections of the Scope of Works.

The programme, which is provided should illustrate that the required work can be realistically programmed within the contract period at the estimated cost. If an alternative contract period is offered, the contractor shall submit a separate programme with the alternative tender.”

*Insert the following paragraphs prior to second paragraph”*

“The contractor should be informed on the following, prior to final submission of Construction Programme or any revised programme thereafter, as no extension of time nor financial compensation will be granted if provision was not made based on the following paragraphs. The Engineer with support of the Employer will evaluate and determine whether the claim could have been avoided if the following paragraphs were considered, if so no extension of time nor financial compensation.”

**(i) Progress**

The Contractor shall be responsible for furnishing detailed program and information pertaining to the progress of the Works in a format acceptable to the Engineer for the full duration of the Contract. This shall include the maintenance of a daily diary detailing the activities, equipment, etc. of the relevant day, which shall be submitted by 08:00 on the following day to the Engineer

Where delays have taken place, the construction programme shall be updated showing how the Contractor shall make up for lost time. Where delay is due to abnormal climatic conditions the extension in time approved shall be indicated. This shall be done at least on a monthly basis before the regular Site Meeting.

All the costs thereof shall be deemed to be included in the prices quoted.

**(ii) Delay in Completion**

The Contractor shall organize the works in such a manner that no delay occurs. Delay due to faulty organization or lack of materials or labour or to any other cause within the control of the Contractor will not be considered and the Engineer may order the Contractor to expedite the work, should the work in the opinion of the Engineer not be proceeding in a satisfactory manner.

The Contractor shall make every effort to work in accordance with this programme and, should he at any time fall behind, he shall submit for approval a revised programme detailing how he proposes to bring his work back to schedule.

**(iii) Ordering of Long Delivery Items**

The Contractor's attention is drawn to the fact that where certain items of equipment are required early in the project construction programme, especially for those required for building in into structures, and where long delivery items are involved, those are to be ordered and supplied to site timeously in order to avoid any delays to the overall project construction programme of the Works.

**(iv) Ordering of accessories**

The Contractor shall check all dimensions and quantities shown on the drawings and/or in the Schedule of Quantities. The dimensions and quantities of all accessories shall be agreed upon between the Contractor and the Engineer before said accessories are ordered.

During preparation of this Tender the Contractor is to ascertain if all materials and equipment to be supplied can be obtained in South Africa and if not, and should the tender be accepted, the Contractor is to take steps to import the same so that the Works are not delayed. Delay in the Works owing to non-delivery of materials and equipment will not be considered a cause for delay in completing the Works.

**b) Programme of work for rehabilitation work**

*In the first sentence of the second paragraph after “.....in the project specifications,” insert the following:*

“on the quantities contained in Section H.5.3, Schedule of Quantities),”

*Add the following below the final paragraph.*

“The contractor should be informed that the Engineer has the right to instruct the Contractor to deviate/adjust/direct/modify the Contractors schedule and or activities to serve the best interest of the project. The contractor shall be flexible and able to adapt to changing circumstances.

These changes should be considered within the revised programmes, to ensure the pre planning per month is done accordingly. The programme will indicate if deviations has occur and how will the contractor adjust his programme to be able to achieve deadlines as agreed prior to any deviations.”

*Insert the following paragraphs:*

**c) “Additional programme requirements**

In addition to the requirements of clauses B1204 (a) and B1204 (b), and of clause 5.6 of the General Conditions of Contract 2<sup>nd</sup> Edition, (2010), the programme of work shall include the following details:

- (i) A work breakdown structure that identifies all major activities.
- (ii) Scheduled start and end dates for each activity.
- (iii) Linkages between activities that clearly identify sequence, floats and critical path.
- (iv) Intended working hours and resource allocations (plant and labour).
- (v) Production rates.
- (vi) Monthly cash flow projections.
- (vii) Key dates in respect of information required or due delivery.”
- (viii) The contractor's payment weekends

- (ix) A risk assessment schedule with mitigating plans of issues that could prevent the due completion date being met.
- (x) The events influencing the execution of the works
- (xi) On adjusted programmes, the actual progress achieved for the various parts of the Works and the amounts paid.

“The principle of penalties being imposed for extended lane closures shall be applied whenever the contractor fails to complete work zones within the periods allocated for completion according to the initial approved programme provided in terms of clause 5.6”

Should the engineer require an electronic version of the programme for review purposes, the contractor shall supply the programme in a format compatible with the engineers software.

**d) “Programme revisions**

The programme will be reviewed at the monthly site meetings at which the contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the current programme. The contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind. The engineer may demand from the contractor a major revision of the programme. Such a revision shall be submitted for comment within 14 days of the demand.”

**B1205 WORKMANSHIP AND QUALITY CONTROL**

*Insert the following as sub-clauses after the first paragraph:*

**b) Quality Systems**

The contractor shall implement a quality assurance system that replicates an ISO 9002 and appoint a quality manager who shall ensure that members of the contractor’s staff comply with the requirements of the quality system. The quality system and the methods used to implement it shall be described in a quality plan produced by the contractor. The quality manager shall be resident on site full time.

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

The system shall provide for a method statement for each construction activity for which a pay item is provided in the Schedule of Quantities. Each method statement shall be submitted to the engineer for his approval two weeks prior to commencement of the activity. Where appropriate the contractor shall make use of the employer’s manuals in preparing his method statements. No construction activity shall commence before the engineer has approved the contractor’s quality assurance system.”

**c) Legal Requirements**

This section also refers to the contractual requirements as listed in the General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition, (2010) Clause 7.1, 7.2, 7.4 and should be considered during pricing the schedule of quantities, as no specific item has been added to the Schedule of Quantities, as shown in Section H, Sub Section 5.3.

**d) Site Supervision and Testing**

The Contractor shall ensure that sufficient qualified and experienced supervisory staff, the required transport, instruments, equipment and tools are available to control his own workmanship. Each construction site must have substantial supervision to allow construction to occur concurrently on both sites. The Engineer or his representative will not act as foreman or surveyor.

The Contractor shall furnish the Employer and the Engineer with a list of addresses and telephone numbers of key personnel in the Contractor's organization who may be contacted in an emergency both during and outside normal office working hours. This list will be required prior to any payments being certified.

Key personnel listed above will be available for the duration of the Contract and may not be removed or re-allocated by the Contractor without the written permission of the Engineer.

**e) Rejected work and materials**

Materials which do not conform to the requirements of the Contract Document, are not equal to samples approved by the Employer or Engineer or are in any way unsatisfactory or unsuited to the purpose for which they are intended, shall be rejected. Any defective work, whether as the result of poor workmanship, use of defective materials, damage through carelessness or any other cause, shall be removed within ten (10) days after written notice is given by the Employer or Engineer, and the work shall be re-executed by the Contractor. The fact that the Employer or Engineer may have previously overlooked such defective work shall not constitute an acceptance of any part of it. Such remedial work shall be for the Contractor's account and no claims for extra cost or extension of time shall be entertained.

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

*Add the following at the end of the fourth paragraph:*

“Road markings, particularly the divergent/convergent lines of ramp interchanges and no overtaking barriers are also elements of the road that require proper setting out. The contractor shall prove to the engineer that critical reference points have been satisfactorily recorded for later reinstallation before any work commences that will obliterate the existing markings.”

*Delete “and of clause 14 of the general conditions of contract” in the sixth paragraph.*

*Add the following paragraph:*

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

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



**B1207 NOTICES, SIGNS AND ADVERTISEMENTS**

*Delete the third paragraph and replace with the following:*

“All signboards erected in accordance with the drawings shall be removed at the same time as the de-establishment of the contractor’s camp site. Payment under sub item 13.01 for the final instalment of 15% of the tendered lump sum shall not be made unless all the advertisements, notices and temporary signs have been removed.

**B1209 MEASUREMENT AND PAYMENT****b) Rates to be inclusive**

*Add the following to the first paragraph:*

“VAT shall be excluded from the rates.”

*Insert the following after “constructional plant” in lines 6 and 7 of the first paragraph:*

i. “(Distinguishing between operational costs and hire costs)”.

**c) The meanings of certain phrases in payment clauses**

(i) Procuring and furnishing ... (material)

*Add the following:*

(ii) “Payment for procuring and furnishing material from commercial sources shall include all transport costs, irrespective of distance hauled”.

(iii) *Add the following:*

(iv) “The Contractor should make provision to obtain relevant and ISO approved suppliers for any material required for the successful implementation of the project (all repair works). The suppliers were only provided for informational purposes only.”

**e) Materials on the site**

*Replace “clause 52” in the first line with “sub-clause 6.10.2”*

*Add the following sub-clauses:*

**“g) Work in confined areas**

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

**h) Split quantities**

Wherever in the Schedule of Quantities allowance has been made to price items of work for which a product or material is uncertain and quantities split between pricing items, the Employer reserves the right to choose whichever is the most appropriate or combination thereof, regardless of any adverse effect on the Contractor’s costs and no claims for additional compensation shall be entertained.”

**B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS**

*Replace the 1<sup>st</sup> paragraph with the following:*

“Notwithstanding that there might be natural or programmed sections of the works that will result in them being completed in their entirety before other sections, no consideration

shall be given to the issuing of practical completion certificates for portions of the works. The use of any completed roadway or parts of the work, whether for unhindered use by the public or for accommodation of traffic while other parts are being constructed, shall not constitute use or occupation by the Employer.

*Add the following to sub-clause (e) before the semicolon:*

“(Including road studs)”

*Add the following paragraphs after item (h):*

“In addition to the above itemised sections of the works and regardless of the degree of beneficial occupation by the Employer, the outstanding works contained in the lists produced by the contractor and the engineer shall be considered for practical only if the following criteria have been met:

- (I) The estimated cost to complete the listed outstanding work is less than 2% of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.
- (ii) The written lists of outstanding items of work can be completed within 28 days of the lists having been issued.
- (iii) Any information in the contractor’s possession, which is required by the engineer and has been requested in writing, has been supplied.

If any of the listed criteria (I) through (iii) are not met at the date of the contractor’s notice of application, the engineer is to reject the application without providing any corresponding list of outstanding work. If an application is rejected, the contractor shall rectify what has been identified as deficient before submitting a new notice of application.”

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

*Amend the last line of the second paragraph to read as follows:*

“... Materials, condition of the site and cement type (in order to comply with the durability requirements described in sub-clause B6404(h)).”

#### **B1214 CONTRACTOR’S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED**

*Add the following to the last paragraph of sub clause (d):*”

These written statements shall be handed to the engineer before the final certificate will be issued. Failing to obtain these written statements from all landowners and authorities concerned, the Defects Notification Period will be extended including all conditions related to such an extension, until such time that all these statements are obtained.

The obtaining of any such written statements will not relieve the contractor of the execution of any of his obligations to the satisfaction of the landowner or authority concerned, and to the approval of the engineer.”

*Under sub-clause (e) replace the opening paragraph with:*

“Should the contractor use land not provided by the Employer for the purpose of his own establishment, engineer’s offices and laboratory, or storing of equipment or materials required for construction or disposal, it shall be subject to the following:”

*and add the following sub-sub-clauses:*

- “(vi) That lease agreements are concluded with the owner or owners of such land for the full period that such areas are required. The leases shall provide for possible extensions to match the duration of the contract. The lease agreements shall also

provide for the contract being terminated by contractor's default or liquidation and the resulting possibility for them to be taken over by a succeeding contractor.

- (vii) That copies of lease agreements shall be submitted to the engineer prior to signature by the signing parties, and copies lodged with the engineer after signing. Notwithstanding the engineer's approval of the conditions of a lease the contractor shall be solely responsible for adherence to the terms of the agreements.
- (viii) Adherence to the principles of the environmental management plan and legal obligations"

*Add the following sub-clause:*

**"f) Cleaning of public roads**

Where material is spilled on public roads during the haul of material, the road shall be cleaned immediately."

**B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL**

Change the existing heading of clause 1215 to read as follows: **"EXTENSION OF TIME RESULTING FROM INCLEMENT WEATHER"** and replace this clause with the following:

"Extension of time in respect of delays resulting from wet climatic conditions on the Site will only be considered in respect of abnormally wet climatic conditions and shall be determined for each calendar month or part thereof, in accordance with the formula given below:

$$V = (Nw - Nn) + (Rw - Rn)/X$$

in which formula the symbols shall have the following meanings:

V = Potential extension of time in calendar days for the calendar month under consideration:

If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.

When the value of V for any month exceeds the number of days in the particular month, V will be the number of days in the month.

Nw = Actual number of days in the calendar month under consideration on which a rainfall of Y mm or more was recorded on the Site

Nn = Average number of days, derived from existing records of rainfall in the region of the Site, on which a rainfall of Y mm or more was recorded for the calendar month

Rw = Actual rainfall in mm recorded on the Site in an approved rain gauge for the calendar month under consideration

Rn = Average rainfall in mm for the calendar month, derived from existing records of rainfall in the region of the Site

The factor (Nw - Nn) shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall exceeds Y mm.

The factor (Rw - Rn)/X shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work.

The rainfall records at the nearest rainfall station to the site for a 10 year period shall apply for purposes of this contract. The monthly averages ( $R_n$  and  $N_n$ ) for this period shall, for the purposes of this Contract be taken as normal and as the values to be substituted for  $R_n$  and  $N_n$  in the formula above. The values of  $X$  and  $Y$  shall be 20 and 10 respectively.

The potential extension of time  $V$  has been calculated for each month and year of the period concerned to indicate the possible effect of the rainfall formula. The values of  $V$  were obtained by applying the rainfall formula and using the actual rainfall figures and the calculated values of  $R_n$  and  $N_n$  indicated in the table.

The Contractor shall, at his own cost, provide and erect on the Site at a location approved by the Engineer, an approved rain gauge, which shall be fenced off in a manner which will prevent any undue interference by workmen and others. The Contractor shall, at his own cost, arrange for the reading of the rain gauge on a daily basis for the duration of the Contract. The gauge readings, as well as the date and time at which the reading was taken shall be recorded in a separate record book provided by the Contractor for this purpose. All entries in the rainfall record books shall be signed by the person taking the reading and the gauge shall be properly emptied immediately after each reading has been taken. If required by the Engineer, the Engineer shall be entitled to witness the reading of the gauge.

The Contractor's claims for extension of time in respect of delays resulting from wet climatic conditions on the Site during each month, shall be submitted in writing to the Engineer monthly; provided always that

the period allowed to the Contractor in which to submit his claim for each month shall be seven (7) days, calculated from the last day of the month to which the claim applies; and the Engineer shall give his ruling on the claim, within fourteen (14) days.

The Contractor's monthly claim shall be accompanied by a copy of the signed daily rainfall readings for the applicable month.

The extent of any extension of time which may be granted to the Contractor in respect of wet climatic conditions (whether normal or abnormal) shall be determined as the algebraic sum of the " $V$ " values for each month between the Commencement Date and the Due Completion Date of the Contract; provided always that

Rainfall occurring within the period of the Contractor's Christmas shut-down period shall not be taken into account in the calculation of the monthly " $V$ " values;

rainfall occurring during any period during which the Contractor was delayed due to reasons other than wet climatic conditions on the Site, and for which delay an extension of time is granted by the Engineer, shall not be taken into account in the calculation of the monthly " $V$ " values;

if the algebraic sum of the " $V$ " values for each month is negative, the time for completion will not be reduced on account of subnormal rainfall, and

where rainfall is recorded only for part of a month, the " $V$ " value shall be calculated for that part of the month using pro rata values for  $N_n$  and  $R_n$ .

The Engineer shall, simultaneous with granting any extension of time in terms of this clause, revise the Due Completion Date of the Contract to reflect an extension of time having been granted in respect of wet climatic conditions, to the extent of the algebraic sum of all the " $V$ " values for all the preceding months of the Contract, less the aggregate of the " $N_n$ " values for the remaining (unexpired) months of the Contract (viz less aggregate of the potential maximum negative " $V$ " values for the remaining Contract Period). Thus, provided that where such period is negative, the Due Completion Date shall not be revised.

Any extension of time in respect of wet climatic conditions granted in terms of this clause shall not be deemed to take into account delays experienced by the Contractor in repairing or reinstating damage to or physical loss of the Works arising from the occurrence of abnormal climatic conditions. Extension of time in respect of any such repairs or reinstatement regarding damage shall be the subject of a separate application for extension of time in accordance with the provisions of the Conditions of Contract.”

#### **B1219 WATER**

*Add the following:*

“Water for use on site other than municipal, shall be subject to the required permit from Department of Water Affairs and Sanitation (DWS). This shall include such extraction points as rivers, dams, streams, and boreholes.

Use Table B1219 below to determine the suitability of water for construction purposes.

TABLE B1219: WATER CLASSIFICATION FOR CONSTRUCTION: TESTING

		Water Quality Classification Code							
		H0	H1	H2	H3	H4	H5		
Property	Unit	Pure water (AR)	Clean water (Rain)	Treated water (Municipal)	Silty (muddy) water with low salt content	Highly mineralised chloride sulphate water (brackish)	Waste brack, sewage, marsh, sea, etc. water	Method	
PH*	-	7.0	5.7 – 7.9	4.5 – 6.5	4.5 – 8.5	9.0	-	SABS M113 SM 11 - 1990	
Dissolved solids*	ppm	0	1000	1500	3000	-	-	SABS 213 SM213 - 1990	
Total hardness*	-	None	None	Temporary	Temporary	Permanent	-	SABS 215 SM 215 – 1971	
Suspended matter	ppm	0	2000	2000	5000	-	-	SABS 1049 SM 1049 – 1990	
Electrical conductivity	mS/m	0	200	200	500	-	-	SABS 1057 SM 1057 – 1982	
Sulphates (SO4)	ppm	0	200	300	500	1000	-	SABS 212 SM 212 – 1971	
Chlorides (Cl)	ppm	0	500	1000	3000	5000	-	SABS 202 SM 202 – 1983	
Alkali Carbonates (CO3) & Bicarbonates (HCO3)	ppm	0	500	1000	1000	2000	-	SABS 241 – 1999	
Sugar	-	Negative	Negative	Negative	Negative	Negative	-	SABS 833	
Quality of water required		Untreated layer works	✓	✓	✓	✓	Investigate the effect on the quality of the material		
		Chemically treated layer works	✓	✓	✓	Investigate the effect on the quality of the material			
		Concrete mass	✓	✓	✓	Investigate the effect on the quality of the material			
		Concrete prestressed	✓	✓	References: 1. Concrete Technology – Dr S Fulton (1989) 2. Materials Manual (PAWC)				
		Slurry & emulsion	✓	✓					
		Soil/gravel tests	✓	✓					
		Chemical or control tests	✓	✓					

- A primary property. The quality of the water is that quality where all three of the primary properties are within the limits.
- The tabulated single values are maximum value except in the case of the pH value for pure water, which must be 7.0

**B1227 MONTHLY SITE MEETINGS**

*Add the following in continuation with the first paragraph.*

“The Engineer will hold regular site meetings and keep and circulate minutes. The Contractor shall attend and shall ensure that all Sub-Contractors are represented.”

**B1229 SABS CEMENT SPECIFICATIONS**

*Add the following:*

“All cement used during construction shall comply with SANS 50197-1 for common cements and SANS 50413-1:2004 for masonry cement. Any reference to SABS 471 in the standard specifications shall be replaced with the new specification SANS 50197-1: Cement compositions, specifications and conformity criteria: Part 1: Common cements.

Where the old SABS 471 product nomenclature has been used in the standard specifications, the contractor shall supply and use the relevant new product, in compliance with SANS 50197-1.”

*Add the following:*

**“B1230 MATERIALS****(a) General**

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

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

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

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

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

Any materials excavated or present on the site or within the road reserve, or in borrow areas shall not become the property of the contractor, but will be at his disposal only in so far as they are approved for use on the contract, unless otherwise indicated in the project specification.

Existing structures on the site shall remain the property of the Employer and except as and to the extent required elsewhere in the contract, shall not be interfered with by the contractor in any way.

Materials to be included in the works shall not be damaged in any way and, should they be damaged on delivery or by the contractor during handling, transportation, storage, installation or testing they shall be replaced by the contractor at his own expense.

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

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

(b) **Banned materials**

No tar fluid products shall be used in the construction works.

**B1231 MIX DESIGNS**

Before commencing with certain construction activities, the contractor shall, except where specified otherwise in the relevant construction sections in the Scope of Works, apply the following procedures with regards to mix designs:

- (i) Taking and submitting samples of the relevant materials.
- (ii) Undertake the required mix design(s) or allow the engineer to undertake them at the contractors Cost.
- (iii) Produce, where required, laboratory, production/plant and/or trial mix (es).
- (iv) Undertake the required adjustments to the mix design(s) and reproduce required laboratory, production/plant and/or trial mix (es).
- (v) Complete trial section(s) where required.
- (vi) Await the engineer's approval of the mix design(s) and trial section(s).

**B1232 CONSTRUCTION CAMP SITE**

Possible positions of the construction camp will be provided by the Client on contract award.

The layout of the construction camp site shall be submitted to the Engineer before the Contractor starts erecting his camp.

**(i) Notification of Contractor's Site Requirements**

- ii. As early as possible, after tender clarification and before award of contract, the Contractor shall notify the Engineer of his requirements for the services listed below.

**(ii) Stacking and Office Sites**

- iii. The Contractor shall, where required, fence (temporary fencing or barricading) the site establishment and laydown areas allocated to him, provide lockable gates (if applicable) and have large name-boards displayed (if applicable). The Contractor is responsible for keeping his areas neat and tidy without weeds and accumulations of rubbish. Buildings shall be respectable.
- iv. Inflammable and hazardous materials shall be stored safely and separately. Adequate firefighting equipment shall be made available by the Contractor.
- v. The Contractor shall be responsible for taking all necessary precautions to safeguard his site establishment and installation from theft and damage, but complying with the Employer's safety requirements.



- vi. At the end of the contract, the Contractor shall clear the site of all buildings, latrines, concrete slabs, cables, water pipes, sewers, fences, name-boards and rubbish which were the result of his occupation.

**(iii) Electricity Supplies**

- vii. The Contractor shall make his own arrangements for electrical supply and the related cost thereof. No separate payment will be made in this regard.

**(iv) Water Supplies**

- viii. The Contractor shall make his own arrangements for water supply and the related cost thereof. Water used from a Municipal source will be metered and payments must be done to the Municipality. No separate payment will be made in this regard.

**(v) Compressed Air**

- ix. The Contractor shall supply his own compressed air for erection and construction purposes. No separate payment will be made in this regard

**(vi) Excrement Disposal**

- x. The Contractor shall, at his own expense, be responsible for safely and hygienically dealing with and disposing of all human excrement and similar matter generated on the Site during the course of the Contract, to the satisfaction of the responsible health authorities in the area of the Site and the Engineer. All such excrement shall be removed from the Site and shall not be disposed of by the Contractor on the Site.
  - i. The Contractor shall further comply with any other requirements in this regard as may be stated in the Contract.
  - ii. No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this sub-clause and the costs thereof shall be deemed to be included within the Contractor's tendered Preliminary and General Items.

**B1233 HEALTH AND SAFETY REGULATIONS**

The following rules and regulations shall apply at all times on the construction site:

- o Occupational Health and Safety Act (Act No 85 of 1993;
- o Motor vehicles shall comply with Road Traffic Ordinance, Ordinance 21 of 1966 and Regulations framed thereunder;
- o The standards of safety and good housekeeping required of Contractors are those established by the National Occupational Safety Association (NOSA) and the International Organization of Standardization (ISO); and
- o Construction regulation 2014.

The envisaged scope of works does not require any special Occupational Health and Safety considerations. It is however proposed that a registered Occupational Health and Safety practitioner evaluates the current OH&S specifications, outlined by the ISO 45001, for its relevance to this specific project. This will be actioned once the scope of work is finalised.

**B1234 ENVIRONMENTAL MANAGEMENT**

The contractor will be responsible for the construction according to an environmental management plan. The contractor must take the utmost care to minimise the impact of his establishment and other construction activities on the environment and must adhere to the requirements.

As this project is a road surface repair work contract, no environmental approval process is envisaged. The following items do however require comments and action from an Environmental Practitioner:

- Bitumen Storage
- Stone pre-coating areas
- Asphalt storage

#### **B1235 SITE PRESERVATION**

The Contractor shall take all precautions to avoid damage to, or interference with existing equipment, buildings, fences, walls, roads, trees and all services, whether hidden or exposed. Costs of repairs or replacement for any such damage shall be to the Contractor's account.

The contractor should pay attention to Clause 8.1 and Clause 8.2 as stated in the General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition (2010) at all times and any costs incurred to maintain the site should be included under Section B1300.

#### **B1236 GENERAL SITE REGULATIONS**

##### **(i) Job Creation and skills development**

The Dawid Kruiper Municipality is committed to the implementation of Government's policies and in turn expects the same from its contractors. Accordingly, it is a requirement of this project that tenderers are familiar with the specifications that relate to the transformation of the construction industry through the following:

- Consider at least 10 local labours required for job creation. Monthly labour reports to be included and submitted as a requirement; and
- Provision is to be made for training identified teams. Accredited Training will focus on five (5) municipal operational staff members for pothole and patch repair works, these items will not affect progress on site and therefore will occur independantly to the contract and paid under B12.01.
- The minimum requirements in terms of the utilization of local labour are as follows:
  - Minimum local labour to be utilized on site: 30 persons over the duration of the contract.
  - General worker compensation: Department of Labour tariffs
  - Require list of potential local labour within the relevant ward from Councillors via public notices and selection of local labour that has similar previous work experience and would to like expand their experience.
- **Please note – employment Local labour will be paid under B13.01(c) or under activity related rates. No claims for compensation will be considered in this regard.**

##### **(ii) Changes to Scope of Works**

It is the condition of this contract that the employer reserves the right to limit the total expenditure on the Works due to possible budget constraints. Should the tender sum exceed the budgeted amount, the scope of works may be reduced at any time before or exceeding the contract period to ensure that the final contract amount does not exceed the budgeted amount.

**The road will be inspected and prioritised on appointment of the successful tender.** The scope may therefore vary. Marked out

**(iii) Appointment of a Competent Person for Excavation Work**

The Contractor shall, in writing, appoint a competent person(s) to be in charge of excavations. All excavations shall be performed under the supervision of such a competent person.

**(iv) Safe Excavation Practices**

Excavated material must be placed as far from the trench edge as practically possible.

The approval of the Contractor's competent person for excavation work must be obtained before heavy equipment may be placed within the angle of repose of the soil of an excavation.

Tools not in use must be removed from the excavation to avoid it injuring employees or being lost in the event of a slide.

Excavation must be backfilled and properly compacted as soon as possible after the work has been completed.

*Add the following:*

**B1237 MEASUREMENT AND PAYMENT**

<b>Item</b>	<b>Unit</b>
<b>B12.01 Training</b>	
(a) Generic skills	
i) Training Cost.....	PC Sum
ii) Contractors handling costs, profit and all other charges in respect of sub item (a)(i).....	%
(b) Other Cost during training.....	Prov. Sum

Item (a)(i) and (b) amounts provided includes full compensation for the cost of obtaining a suitable NQF Trainor, venue arrangements, accommodation and sustenance for the Trainor, travel expense and stationary, practical equipment and materials to successfully complete an NQF accredited training course which includes on site practical experience for base repairs and pothole repairs. Item (a)(ii) makes provision for the contractors handling costs to manage the training and to provide feedback on the course.

## **SECTION B1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**

### **B1302 GENERAL REQUIREMENTS**

- c) Legal and Contractual Requirements and responsibilities to the public

*Add the following:*

“Legislation imposes mutual obligations on the Employer and contractor in the performance of their duties to society and to the built and natural environment. To assist the contractor in understanding and assessing his obligations, and thus to make allowances for the cost of compliance with this legislation, the following additional specifications are included in the project specifications.

The Scope of Works and project specifications contains the specifications that regulate the contractor's construction methods so far as to ensure health and safety of his employees and of the public. New pay item has been made available under this section to allow the contractor to make separate provision for the cost of health and safety measures during the construction process.”

### **B1303 MEASUREMENT AND PAYMENT**

<b>Item</b>	<b>Unit</b>
-------------	-------------

#### **B13.01 The contractor's general obligations**

*Add the following pay sub items:*

“(d) Health and safety obligation..... month

*Add the following sub-clauses defining ‘the contractor’s general obligations’:*

“(iv) Complying with the requirements and conditions of the additional specifications relating to the Government’s Broad Based Black Economic Empowerment

*Delete the third paragraph commencing “Should the final value of the work.....”.*

*Replace “clause 49” in the 4th, 8th and 10th paragraphs with “sub-clauses 6.10”.*

*In the 11th paragraph, the following amendments apply:*

- Insert as a new second sentence “Hire costs or minimum hourly charges per month for constructional plant shall be deemed to be a part of construction time”.
- Delete “received the letter of acceptance in terms of clause 12” and replace with “date of commencement in terms of clause 5.3”.
- In the last line, change “clause 45” to read “clause 6.6”.

*Add the following at the end of the second last paragraph of the payment clause:*

“... Such limitations to payments shall occur whenever the contractor falls behind by more than 1 month on his initial approved programme, in which case the application of this payment item shall be the same as for 13.01(b) (i.e. the total price offered for 13.01(c) is treated as a lump sum). Normal application continues once the contractor’s progress has returned to within the time set for the limitation.

*Add the following paragraphs:*

“Payment of the rate per month for sub item B13.01(d) shall include full compensation for all the contractor’s obligations relevant to health and safety legislation.

All pay items for which the unit of measurement is "month" are deemed to be based on **23 working days per month** and shall become applicable only for use in calculations of approved extensions of time in terms of the Conditions of Contract.”

*Add the following paragraph in relation to Time related Obligations:*

*The Municipality has an obligation to employ local labourers to a minimum of 30 locals to assist with their EPWP requirements (however not paid under EPWP rates). Supervisory costs and management of local labours will be included within sub item B13.01(c), if additional supervision will be deemed necessary depending on their nature of work. The local labours will be paid according to the minimum wages as stipulated by the Department of labour and paid under the relevant pay items within the schedule of quantities.*

## **SECTION B1500: ACCOMMODATION OF TRAFFIC**

### **B1501 SCOPE**

*Add the following:*

“It is a requirement of this specification that traffic is accommodated taking into account the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is Volume 2, Chapter 13 of the June 1999 edition. Copies of this publication are available from Government Printers –Tel: (012) 334 4507/8/9 or (012) 334 4510 Fax: (012) 323 9574.

This section also covers the provision of additional information signs for motorists and the release of any notices to the media and public.”

### **B1502 GENERAL REQUIREMENTS**

*Insert the following:*

“The whole of the site will be handed over to the contractor at the beginning of the contract. The sequence in which various parts of the site may be occupied by the contractor for the execution of the different items of work shall be subject to the requirements of the contract documents regarding, inter alia, working hours and the number, spacing and length of the work areas which may be occupied at any particular time.

The contractor shall programme his work taking due cognizance of restrictive conditions indicated in Clause B1204. The contractor's tendered rates shall include full compensation for all possible additional costs, which may arise from the above, and no claims for extra payment as a result of this modus operandi will be considered. The contractor shall in particular note that no additional compensation shall be made for work that could be considered as half-width construction.”

#### **a) Safety**

*Replace the full stop at the end of the first paragraph and continue with the following:*

“... flow of traffic, including the prohibition of his, and his subcontractor's, construction plant from disregarding the stop/go accommodation of traffic control facilities. Failure to comply with this requirement shall be taken as a penalty event in terms of B1502(I).”

*Add the following paragraphs:*

“The contractor shall be responsible for maintaining the existing road surface both within the works area and the advance warning and termination areas in a safe and trafficable condition for the duration of the contract.

The contractor shall within 7 (seven) working days after receipt of a 3rd party claim acknowledge receipt to the claimant. The engineer shall be copied on all correspondence regarding 3rd party claims. The contractor shall at the monthly site meeting report on the status and outcome of the 3rd party claims.

The contractor shall be fully responsible for all the traffic accommodation on site, including for work undertaken by sub-contractors, e.g. at bridges etc.

Traffic shall be accommodated as indicated on the drawings unless an alternative tender incorporating an amended method of traffic accommodation has been accepted.

The contractor may amend the agreed traffic accommodation scheme but only with the approval of the engineer in consultation with the provincial and municipal traffic authorities.

During the non-working hours, or when construction is not taking place on a certain section of road all obstructions to the traffic shall be removed and all signs no longer applicable to the situation shall be removed to an approved safe location or effectively covered.

No equipment or vehicles shall be stored or parked in the median or on the road side during non-working hours except if protected or demarcated and only if approved by the engineer.

When requested by the engineer, the contractor shall provide lane closures for the purpose of road inspection. This must be done in advance of the actual programmed time for the work."

**f) Approval of temporary deviations**

*Add the following:*

"If, after any temporary deviation has been constructed, any changes are considered necessary or desirable, the proposal shall be submitted to the engineer for his approval."

**l) Traffic Safety Officer**

*Add the following to the end of the second paragraph:*

"The contractor shall submit a CV of the candidate to the engineer for approval before the candidate is appointed as the traffic safety officer. "

Insert the following as the opening phrase to sub-sub-clause (l):

"make himself available to discuss road safety and traffic accommodation matters whenever required by the engineer and shall be responsible..."

*Delete sub-sub-clauses (ii) and (iii) and replace with the following:*

- (ii) Record on neat and dimensioned sketches and submit to the engineer the position and sign reference number, where applicable, of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each shall be adequately referenced from the marker boards or other surveyed points on the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the traffic safety officer, and shall be signed by the traffic safety officer before being submitted to the engineer.

The records shall similarly account for whatever changes are made in the field. Such changes shall record the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used.

- (iii) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice per work shift, whether daytime or night work, and at least twice a day/night during non-working hours, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the engineer such record sheets by middle of the next working shift. The above inspections must at least take place before the commencement of peak traffic periods. The traffic safety officer shall keep a duplicate book for this specific purpose.

The traffic safety officer shall also submit with this report the daily labour returns of flagmen, stop/go, traffic signal control personnel employed and the traffic data recorded at each traffic control point.”

*Add the following sub-sub-clauses:*

- (ix) The traffic safety officer shall be equipped with a cellular telephone and shall have a traffic safety vehicle and sufficient labour at his disposal 24 hours a day, including all prescribed non-working days, and shall not be utilised for other duties. He shall be directly answerable to the contractor’s site agent. The traffic safety officer shall have his own vehicle to carry out inspections and at least one assistant to accompany him full time. Furthermore, the traffic safety vehicle shall be a truck with a capacity of at least 3 tons and shall be equipped with a high visibility rear panel in accordance with the requirements of the SARTSM as well as a truck mounted impact attenuator complying with TL-2 criteria when tested in accordance with NCHRP 350 or N1 criteria when tested in accordance with EN 1317. (Certification of compliance must be on site at all times). The attenuator shall be used when the vehicle is utilized to close traffic lanes or when attending to stationary or broken down vehicles or accident scenes. The words TRAFFIC CONTROL shall be written on a warning sign in highly legible letters, not less than 150 mm high, and the sign shall be mounted on both the traffic safety officer’s vehicle and the traffic safety vehicle at least 1.5 m above ground level. The proposed sign and letter dimensions shall be submitted to the engineer for his approval.

The vehicles shall also be equipped with flashing amber LED lights or with flashing amber LED light bars of an approved design. The warning light shall be switched on at all times and the sign shall be displayed when the vehicle is used on site.

The traffic safety officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the contract.

- (x) Ensure that all obstructions related to the contractor’s activities be removed at the end of each work shift where applicable as instructed by the engineer and that the roads are safe for the travelling public.
- (xi) The traffic safety officer shall, in addition to the duties listed in paragraph 1502 (I), also be responsible to arrange for the removal of stationary or broken down vehicles off the roadway in conjunction with the routine maintenance contractor and/or traffic authorities and implementing actions requested by the traffic authorities with regard to the work to be carried out and be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.
- (xii) In the event of an accident the traffic officer shall record in a written report the details of the accident, record the position of all temporary road signs, barricades, delineators, flagmen and any other devices used for traffic accommodation. In addition the report shall include a neat dimensional sketch, photographs, identifiable permanent features, and any other relevant information.
- (xiii) At least two separate traffic safety officers and teams shall be employed when construction is carried out during the day and night.”

*Add the following sub-clauses:*

**(j) Site personnel**

The contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all



times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the engineer, ineffective shall be immediately replaced by the contractor.

**(k) Penalty events**

Whenever the following events occur, the contractor shall be subjected to penalty conditions expressed in the Appendix to Tender.

**(i) Non-compliance with accommodation of traffic specifications**

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

A fixed penalty of R 5 000, 00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

In addition a time-related penalty of R 500, 00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

**(ii) Late occupation of lanes, ramps and/or crossroads**

The contractor shall be charged a lane occupation levy if he continues to occupy interchange ramps, crossroads and/or carriageway lanes beyond programmed completion dates. The levy shall be deducted from payments due on the relevant interim payment certificates at the rates provided in the Appendix to Tender and the pricing schedule."

**(l) Other requirements**

*The following other requirements must be adhered to for the entire contract period:*

- (i) The travelling public shall have the right of way on public roads and the contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.
- (ii) The contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from the above and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered."

**B1503 TEMPORARY TRAFFIC CONTROL FACILITIES**

*Replace the first sentence of the first paragraph with the following:*

"The contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter

referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the SARTSM and remove them when no longer required. It shall be incumbent upon the contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly."

*Replace the last sentence of the second paragraph with the following:*

"Traffic-control facilities no longer required at the site of a deviation or a lane closure shall be moved for re-use. Traffic-control facilities lost or damaged by the contractor shall be replaced at his own cost. Where it can be proved that loss of or damage to such facilities is beyond the contractor's control and not the result of his actions or omissions, the engineer may order the facilities to be replaced and paid for at scheduled rates."

*Replace the third paragraph with the following:*

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

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

#### **a) Traffic control devices**

*Add the following at the end of the last paragraph:*

"At each signalised traffic control point, an all-weather shelter of at least three (3) square metres capable of accommodating two operators, with a clear window, a stable door, two chairs and a portable chemical toilet that shall be regularly maintained, shall be provided. Each control point shall have a 2 (two) phased signal system mounted on 3m high steel poles complete with all electrical wiring, a floodlight system of at least 2x400W metal halide floodlights mounted onto a 9m high pole to light up the traffic control point and lighting along the road where the traffic will queue. The provision shall include for a sufficient continuous power supply to operate each traffic control point. Included in the establishment and operation of the traffic control devices shall be a communication system that allows the operators to communicate with each other.

At each traffic control point, plastic moveable barriers, fitted with STOP signs to both sides, shall be provided to prevent vehicles from utilising the closed road lanes. These barriers shall be moved to open and close the relevant lanes for road users.

Records of opening and closing of closures and traffic counts shall be kept and submitted daily to the traffic safety officer."

#### **b) Road signs and barricades**

Add the following:

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

All temporary road signs required to remain in position for some time shall be pole mounted. All temporary road signs required to be moved more often shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost

of the sandbags shall be included in the tendered rates for the various types of temporary road signs.

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

**c) Channelization devices and barricades**

*Add the following:*

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

*Delineators shall:*

- (i) Comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as indicated on the drawings;
- (ii) Have smooth and round edges and be mounted on a post and base. All components shall be of durable plastic material;
- (iii) Have the lower edge of the reflective part of the delineator mounted no lower than 250mm above the road surface;
- (iv) Be capable of withstanding the movement of passing vehicles and gusting winds up to 60km/h in typical working conditions without falling over. To achieve this, the base shall be at least 0,18m<sup>2</sup> and ballasted by its own weight or with sandbags filled with sand;
- (v) Together with its mounting be designed such that it will collapse in a safe manner under traffic impact.

Traffic cones manufactured in a fluorescent red-orange or red plastic material may be used only at short term lane deviations during daylight. Cones shall not be used on their own, but shall be interspersed with delineators at a ratio not exceeding 3:1. Cones used on all deviations shall be 750mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

On section of road where the centreline has been obliterated, delineators shall be provided on both road edges at minimum 200m spacing on straight sections and at least 3 (three) visible on all curves."

**e) Warning devices**

*Add the following:*

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

**(l) Vehicle mounted flashing lights**

Rotating lights shall have an amber lens of minimum height of 200mm and shall be mounted in such a way as to be highly visible from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general

speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic within the work areas.

All LDVs and cars operating on site shall also be equipped with flashing amber lights which shall be placed so as to be highly visible from all directions and operated continuously while the vehicles are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic within the work areas.

Flashing lights and the "construction vehicle" signs on the contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

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

#### **f) Road Markings**

*Add the following new paragraphs:*

"Temporary road marking shall be reinstated before the road is opened to full width traffic. Temporary road marking shall consist of heavy pre-marking, and/or retro-reflective road marking paint, and/or temporary road studs, as directed by the engineer.

Temporary road studs shall be installed at double the spacing and shall be fixed to the road surface with the bitumen rubber crack sealant to allow for easy removal by application of gentle heat.

Temporary road marking lines for demarcation of temporary traffic lanes, on the final road surface shall not be allowed, except if approved by the engineer. Should temporary road marking lines be approved, it shall consist of one of the following as directed by the Engineer:

- (i) Construction grade tape for temporary road marking which can be removed by applying gentle heat. The tape shall be foil backed, adhesive, reflective tape. The tape shall be capable of being easily removed from the road surface by the application of gentle heat.
- (ii) Removable road marking paint."

*Add the following sub-clauses:*

#### **"g) Other traffic control measures ordered by the engineer**

The engineer may instruct the contractor to provide any other road sign, reflective tape, etc. not measured in standard pay items. Such road signs shall conform to the requirements of the SARTSM, or specification provided by the engineer. Similarly, in order to ensure that the travelling public is kept fully informed and warned on matters relating to the accommodation of traffic, construction sign posting and the effect of the construction on the free flow of traffic through the site, the engineer may arrange for advertising in the press and/or for other forms of publicity.

#### **h) Flagmen**

Flagmen shall be provided where shown on the drawings or required by the specification. During the daytime, at least one flagman shall be provided at each traffic control point in addition to the STOP/GO sign operator. At night-time, all flagmen shall

be equipped with a suitably visible strobe/proper LED reflectors, and a torch at each traffic control point as well as the traffic light operator. Where the shoulder of the road is closed to traffic, flagmen shall be provided at the leading ends of closures during daytime. These flagmen shall be provided at the first speed reduction sign to warn the traffic about the closure. No flagmen shall be on duty for a period of more than 10 hours per day.

Flagmen shall be adequately trained in the standard flagging techniques as described in the SARTSM (refer to figure 13.23 of detail 13.23.1) and be provided with conspicuous clothing such as safety jackets utilizing retro-reflective and/or fluorescent panels in red, yellow and/or white.

Flagmen shall have in their possession, at all times, certification that they have attended and passed an accredited course in flagging techniques before being allowed onto the construction site.

Flags shall be made from bright red or red-orange material and shall be square with a minimum side length of 600mm. The flag shall be attached to a staff at least 1,0m in length.

In terms of lateral clearance and safety, flagmen shall stand on the shoulder of the lane of traffic that is being controlled and under no circumstances shall flagmen be permitted to stand within the traffic lane. In order to obtain maximum visual impact for the travelling public, flagmen shall stand-alone.”

#### **B1504     WIDTH AND LENGTH OF TEMPORARY DEVIATIONS**

All work executed on the existing roadway shall only proceed if such work is carried out in the barricaded-off working area. The travelling public may then use the remaining part of the travelled way. The contractor shall ensure that the section used by the public traffic is always safe and that it offers an easy passage. The working areas must be separated clearly from the public trafficked through the provision of sufficient and efficient traffic control devices and road signs, cancelation devices, warning devices, etc. as specified in the SARTSM Chapter 13, as shown on the drawings or as specified by the Engineer. The following further restriction will apply:

- a) Work shall only be executed behind properly barricaded off-working areas as specified in this document.
- b) Each lane closure shall consist of an advance warning area, transition areas, and working zone and terminal area. The length of the zones and areas are shown on the drawings.
- c) Short term lane closures:

Short-term lane closures shall typically be required during the base patch repair, the surfacing overlay of the existing roadway, application of lane markings and road studs, and the spraying of fog sprays, slurry application, etc. The following conditions must be adhered to:

- (i) The approximate times for short-term lane closures and construction of the works shall be from 07:30 to 18:30 during daylight hours. The times, especially the start of the lane closure, shall be determined at the start of each shift by the engineer and may vary slightly from the times indicated. Different times shall be applicable to each of the roadways.
- (ii) The day prior to a long weekend, the full road width shall be re-opened no later than 14:00.

- (iii) A minimum of 1 lane on each roadway with 3.3m lane width shall be provided at all times.
  - (iv) Flashing illuminated arrow boards must be placed at the start of the closure.
  - (v) Delineators shall be used to demarcate the construction area.
  - (vi) The maximum length of a lane closure is **500m for pre-treatment work and surfacing work**.
  - (vii) The maximum number of closures per direction of **traffic flow will not exceed one (1) per roadway**, except on written approval by the Engineer.
  - (viii) Information signs as detailed with variable dates and times of a lane closure shall be erected at positions as directed by the Engineer. The travelling public shall be informed of the lane closure at least 7 days in advance by displaying the information on the sign.
- d) During non-working hours, all plant and traffic hazards shall be removed from the road surface and all signs no longer applicable to the situation shall be removed or effectively covered. No plant shall be left adjacent to the road during non-working periods. Plant, which is impractical to be parked at a safe distance (at least 10m) from the travelling public, is to be parked off site.
- e) Any excavations shall be fully backfilled before opening to traffic to prevent steps in the riding surface. Similarly, where so instructed by the Engineer, the step at the new overlay shall be temporarily filled to create a ramp effect for the travelling public.

#### **B1517 MEASUREMENT AND PAYMENT**

*Insert the following paragraph after the heading:*

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

*Amend item 15.01 to read as follows:*

"Item	Unit
<b>B15.01 Accommodating traffic and maintaining temporary deviations on:</b>	
a) On identified roadways within Upington .....	kilometre (km)
b) On the cross roads of the intersections and traffic circles ...	kilometre (km)"

*Replace the first paragraph with the following:*

"The unit of measurement shall be the kilometre, measured along the centre lines of the road and the cross roads where construction work is carried out. Accommodation of traffic shall be measured once only, that is no separate payments shall be made for lane and shoulder rehabilitation, slurry, reseal, asphalt overlay, side drains, etc. Only the net distance of the road shall be measured and overlapping distances during staged construction shall not be measured. A distinction shall be made between accommodation of traffic on the through road and accommodation of traffic on the cross roads of intersections.

In the second paragraph, replace the comma after "deviations" at the start of the third line with a full stop and delete the remainder of this first sentence. Also delete the whole of the second sentence, which refers to compensation for the traffic safety officer.

In the third paragraph second sentence, insert a full stop after "use" and delete the remainder of the sentence."

Item	Unit
<b>B15.03</b>	<b>Temporary traffic control facilities</b>
a) Flagmen.....	man-day
<i>Replace the 1st paragraph of the payment description to the following:</i>	
“The unit of measurement shall be a full day and night worked by flagmen. A man-day shall be deemed to comprise of a number of shifts within a twenty four hour period. Shifts of 12 hours and less shall be measured as half of a man-day.”	
b) Portable STOP and GO-RY Signs.....	No
e) Road Signs, R-TR-series mounted on :	
i) 900mm diameter .....	No
c) Road Signs, TW- series mounted on moulded stands.....	No
ii) 900mm sides.....	No
iii) 1200 x 1600mm high visibility.....	No

*Add the following to sub items (b), (e), (f) after the sentence “It shall also include moving the sign as may be necessary”:*

“The contractor should ensure all signs remain in good condition and remain visible and undamaged to ensure accurate traffic control.”

*Amend sub-item (h) to read as follows:*

- |     |   |    |
|-----|---|----|
| (h) | Delineators (TW 401 and TW402)          |    |
| i)  | Single (200mm x 800mm).....             | No |
| ii) | Double sided blade (200mm x 800mm)..... | No |

*Add the following sub-item:*

- |      |   |  |
|------|---|--|
| (n)  | Other traffic control measures ordered by the engineer                |  |
| (i)  | Provision of other traffic control measures....provisional (Prov) sum |  |
| (ii) | Handling costs and profit in respect of                               |  |
|      | .....sub-item B15.03 (n)(i) percentage (%)                            |  |

Expenditure under this payment item, (e.g. media releases or other signs to deliver information to the public) shall be made in accordance with *clause 6.6 of General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition (2010)* for the supply and installation of any additional signs or other traffic control measure ordered by the engineer in accordance with clause B1503 (g).

The tendered percentage is a percentage of the actual amount spent under sub item B15.03 (n)(i), which shall include full compensation for the handling costs of the contractor, and the profit in connection with providing other signs and traffic control measures ordered by the engineer.”

*Add the following at the end of the last paragraph of the payment description:*

“However, allowance has been made in sub-item (h) Delineators for double the quantity of delineators required to execute the works. Payment under this item will be made up to the maximum quantity scheduled.”

Item	Unit
<b>B15.04 Relocation of traffic control facilities.....</b>	<b>lump sum</b>

*Replace the first paragraph with the following:*

“Except for the movement of barriers no payment for this item shall be made under this contract. All costs related to relocation of traffic control facilities shall be deemed to be included in the other pay items in this section.”

*Add the following pay items:*

Item	Unit
<b>B15.14 Provision of traffic safety equipment for use by engineer</b>	

(a) Safety jackets ..... number (No)

The unit of measurement shall be the number of each item provided as specified, and approved by the engineer.

The tendered rates for the various safety items shall include full compensation for provision thereof and maintenance in good working order.

Item	Unit
<b>B15.15 Provision of traffic safety</b>	

(a) Traffic safety officer.....month

The unit of measurement shall be the month (or part thereof) that the specified duties of the traffic safety officer are performed, irrespective of the number of traffic safety officers employed in any 24 hour day.

The tendered rate shall include full compensation for the cost of the traffic safety officer(s) to conduct the duties as specified in sub-clause B1502(l) and includes the provision of his own vehicle, fuel, vehicle maintenance and insurance and the cost of the cellular telephone and all other incidentals related to the performance of his duties.

(b) Traffic safety vehicle(s).....month

The unit of measurement shall be the month (or part thereof) that the safety vehicle is on site and in continuous use in the performance of traffic safety.

The rate tendered shall include the provision of the traffic safety vehicle, fuel, vehicle maintenance and insurance costs, drivers, labourers and all other incidentals related to the performance of the traffic safety duties.

Item	Unit
<b>B15.16. Penalty to be deducted for non-compliance with requirements for accommodation of traffic</b>	

(a) Fixed penalty per occurrence .....number (No)

(b) Time related penalty ..... Hour (hr)



*Add the following new sections:*

**"B1519 ACCOMMODATION OF PEDESTRIAN TRAFFIC**

The contractor shall pay specific attention to the accommodation of pedestrian traffic along the cross roads where the safety of pedestrians could be compromised as a result of the works.

Where pedestrians have to cross the site, the contractor shall ensure that the pedestrians are safeguarded and shall be able to cross the site without being endangered. The pedestrians should not be able to enter areas where works are taking place.

Should a walkway be required, it shall have a clear opening of at least 1,2 m wide and 2,1 m high and shall be uniformly illuminated at all times. The surface of the walkway shall be free from obstructions and shall be clearly signposted to guide the pedestrians towards the walkway. If steps are required to reach the level of the walkway, these shall comply with the OHS act and have proper handrails. No ramps shall be steeper than 1 in 8.

Payment for compliance to this requirement shall be deemed to be included in the rates tendered for in B15.01(a), accommodation of traffic."

**SECTION B1600: OVERHAUL***Add the following:***B1603 COST OF SPOILING AT MUNICIPAL LANDFILL SITE:**

Item	Unit
<b>B16.03 Cost of Spoiling at Municipal Landfill site:</b>	
(a) Actual surcharge cost.....	PC Sum
(b) Contractors handling costs, profit and all other charges in respect of item B16.03 (a).....	%

Sub item B16.03 (a) makes provision for the full cost of loading, hauling distance travelled and spoiling of unwanted material. The landfill site to be provided by the Municipality on appointment of contractor. The designated landfill site, will be approved by the Municipality prior to disposal.

**B16.03 PLANT PROVISION****B16.03 COST OF PROVIDING PLANT****Pavement Asphalt Cutter**

Blade cutter .....300mm minimum

Engine type.....Diesel Gasoline

Blades..... x 4

**Walk behind compactor roller**

Drum .....Dual drum 750mm

Weight .....675km minimum

The contractor shall provide the cost of hiring plant listed and also price for purchasing of tools identified. Where the two options exist the municipality would prefer to buy the tools and take ownership after project hand over. The contractor must provide the brand proposed and sample/Catalogue with full details of the proposed equipment. The contractor must also indicate the lead time for procurement.

**SECTION B1700: CLEARING AND GRUBBING****B1704 MEASUREMENT AND PAYMENT:**

Item	Unit
<b>B17.05 Cleaning out of Hydraulic structures:</b>	
(a) Pipes with an internal diameter up to and including 750mm	
l) By hand.....	m <sup>3</sup>

*Add the following after sentence "Payment under this item will normally only be made once during the duration of the contract.":*

*"Hydraulic structures will be pre-marked for cleaning prior to commencement of this item. No payment will be made under this item, if quantities were not agreed / or instructed by the Engineer to commence. This item can be used to compensate local labour obligations."*

## **SECTION B1800: DAYWORKS**

*Add the following sections:*

### **B1801 SCOPE**

This section covers the listing of day work items, in accordance with clause 6.5 of the General Conditions of Contract for Construction Works, 2<sup>nd</sup> Edition (2010), for the use in determining payment for work that cannot be quantified in specific units in the Pricing Schedule. Or work ordered by the engineer during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the Pricing Schedule.

### **B1802 GENERAL REQUIREMENTS**

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

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

The Contractor shall keep and submit records of the work performed in accordance with the requirements of 6.5.4 (GCC 2015) of the General and/or Special Conditions of Contract.

### **B1803 LABOUR**

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

Prior to the commencement of any work by the personnel described under item B18.01 the contractor must obtain written consent from the Employer's Agent regarding their classification in terms of "unskilled", semi-skilled" and "skilled" personnel.

Personnel will be classified using the following as a guide:

- Unskilled labour shall be labour using hand tools/labour only
- Semi-skilled labour shall be capable of using power tools such as drills and operating pedestrian rollers
- Skilled labour shall be capable of constructing formwork or laying bricks etc
- A ganger shall be capable of supervising a team of at least 6 labourers

Gross remuneration, as specified in subclause 6.5.1.2.1 (GCC 2015) of the general and/or special conditions of contract, will be deemed to include the following:

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

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

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

#### **B1804 MATERIALS**

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

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

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

#### **B1805 PLANT**

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

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

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

Sixty percent (60 %) of the hourly rate tendered or agreed will be paid in respect of plant which is being employed for daywork, but standing idle on the specific instructions of the Engineer, as full compensation for idle costs of daywork plant.

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

**B1806 MEASUREMENT AND PAYMENT**

<b>Item</b>	<b>Unit</b>
<b>B18.01 Personnel</b>	
(a) Unskilled labour.....	hour (h)
(b) Semi-skilled labour.....	hour (h)
(c) Skilled labour .....	hour (h)
(d) Ganger.....	hour (h)
(e) Foreman.....	hour (h)

<b>Item</b>	<b>Unit</b>
<b>B18.02 Equipment</b>	
(a) Tractor-loader-backhoe (case 580 or similar) .....	hour (h)
(b) Tip truck (6m <sup>3</sup> ) .....	hour (h)
(c) Plate compactor.....	hour (h)
(d) Hand controlled 1 roller (Bomag 65 or similar) .....	hour (h)
(e) Staff propelled vibrating roller smooth (±7 ton).....	hour (h)
(f) Compressor and all accessories i.e. breakers, etc (capacity of ± 4m <sup>3</sup> /min).....	hour (h)
(g) Concrete mixer (capacity of ±350 litres) .....	hour (h)

<b>Item</b>	<b>Unit</b>
<b>B18.03 Materials</b>	
(a) Procurement of materials.....	provisional (Prov) sum
(b) Contractor's handling costs, profit and all other charges in respect of sub-item B1803(a).....	percentage (%)

<b>Item</b>	<b>Unit</b>
<b>B18.04 Transport</b>	
(a) Light delivery vehicle (1 ton) .....	kilometre (km)
(b) Flatbed truck (capacity of ±5 tons) .....	kilometre (km)

The unit of measurement for items B18.01 and B18.02 shall be the hour for the item of equipment or personnel. Non-working hours for transport breakdown, lack of operator of any other reason shall not be measured. The time shall be taken from the time that the personnel and/or equipment depart until return.

Measurement shall only be for work instructed and directed by the engineer, where the engineer considers no other appropriate rate is applicable in the Pricing Schedule. Prior to the commencement of any work by the personnel described under item B18.01 the

contractor must obtain written consent from the engineer regarding their classification in terms of "unskilled", semi-skilled" and "skilled" personnel.

The tendered rates for labour under B18.01 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence, allowances, Employer's contributions, additional payment for overtime where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non -mechanical plant and equipment and consumable stores, for all administrative, supervisory, operative and contingent costs, relating to the supply of personnel.

The tendered rates for plant for item B18.02 shall be an all-inclusive hire charge for the use of the vehicle and driver or plant/equipment and operator and shall apply only to vehicles plant and equipment nominated in writing by the engineer, for all administrative, supervisory, operative and contingent cost, and profit relating to the running of the plant.

The unit of measurement for sub item B18.03(a) shall be the amounts actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the General Condition of Contract for Construction Works, 2<sup>nd</sup> Edition (2010). Only the actual quantities of materials used, as verified by the engineer, shall be paid for.

The percentage tendered for sub item B18.03(b) shall be the percentage of the amounts actually paid for the procurement of materials as ordered under sub item B18.03(a) and shall be in full and final compensation in respect of the contractor's handling costs, profit and all other charges in connection with the procurement and supply of the materials to the point of usage.

The unit of measurement for item B18.04 shall be the kilometre distance that the vehicle travelled for transporting personnel and/or plant. All travelling shall be approved by the engineer.

The tendered rate for item B18.04 shall include full compensation for the cost of the vehicle including fuel, maintenance depreciation and running costs.

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

**COLTO SERIES 2000: DRAINAGE****SECTION B2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS****B2307 SCOPE**

*Add the following to this clause:*

“This section also covers the replacement of damaged concrete kerbing, channelling and lining.”

**B2307 MEASUREMENT AND PAYMENT**

<b>Item</b>	<b>Unit</b>
<b>B23.01 Concrete Kerbing</b>	
(a) Precast kerbing	
ii) Barrier kerb (BK2) .....	m
iii) Edging (E1) .....	m
<b>B23.02 Concrete Kerbing-channelling combination</b>	
(b) Precast kerbing to SABS 927	
i) Figure 4 kerb and figure 14 channel (BK2+ C1) (BK2) .....	m
1) Straight.....	m
2) Radius 1m to 4m.....	m
3) Radius 4.01m to 20m.....	m
<b>B23.14 Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains</b>	
<b>B23.16 Demolish and remove existing kerbing, channelling and edging of site</b>	
(a) Precast kerbs .....	m
(b) Precast kerb and channel .....	m

**Please note:**

*The items listed above are rate only tariffs, whereby throughout the project, where applicable instruction will be given and paid under these items. Paid items as listed above are explained in detail under the relevant clauses under section 2300 of COLTO.*



**COLTO SERIES 3000: EARTHWORKS AND PAVEMENT LAYERS OF GRAVEL OR CRUSHED STONE**

**SECTION B3800: BREAKING UP EXISTING PAVEMENT LAYERS**

**B3801 SCOPE**

*Replace the wording “spoil dumps” in the first paragraph with “spoil of municipal landfills sites, as approved and paid under sub item B16.03(a) and B16.30(b) if not included under 3807)”*

**B3807 MEASUREMENT AND PAYMENT**

Item	Unit
<b>B38.02 Milling out existing bituminous material including all haul with an average milling depth.</b>	
(b) Exceeding 30mm but not exceeding 60mm.....	m <sup>3</sup>
(c) Exceeding 60mm.....	m <sup>3</sup>

*Add the following paragraph, after the last paragraph ending with the word “material.”:*

*“This item makes provision for free haul up to 1.0km to form designated stockpiles, which includes shaping of stock piles or spoil dumps, which will be collected and hauled to the designate Municipal landfill site and paid under section B16.03(a).”*

**B38.04 Excavating and spoiling material from an existing pavement and/ or the underlying fill:**

(a) Non-cemented material.....	m <sup>3</sup>
--------------------------------	----------------

*The depth of excavation will not exceed 150mm.*

**B38.14 Providing the milling machine level control provided) .....No**

*Delete the wording “, or the number of times a milling machine is brought onto the site where it had to be removed temporarily with the approval of the engineer. “and add the following after “site”. The contractor should ensure in his construction programme that the milling operations should be managed in such a way that only the number of milling machines brought to site is sufficient to successfully complete the milling operations without temporary removal.”*

*Add the following payment item:*

**“B38.15 Cleaning and preparation of milled area.....m<sup>2</sup>**

*This item makes provision for the cleaning and preparation of the milled surface, in order to ensure better adhesion of the required tack coat to be applied. This item will make full compensation for the supplying of equipment for cleaning and the removal of unwanted material from the milled area to the designated spoil dumps. “*

**SECTION B3900: PATCHING AND REPAIRING EDGE BREAKS****B3901 SCOPE**

*Replace the 1,0m maximum width requirement with the following:*

“...is an area covering the width of one travelled lane or both travelled lanes, or a length of...”

**B3907 MEASUREMENT AND PAYMENT**

*Amend the following pay items:*

<b>Item</b>		<b>Unit</b>
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**B39.01 Sawing asphalt surfacing or cemented pavement layers for patching:**

(c) Sawing bituminous surfacing to an average depth:

(l) Not exceeding 50mm ..... metre-squared (m<sup>2</sup>)

*Amend the second paragraph by adding the sawing of bituminous pavement layers:*

“...for all incidentals for sawing the asphalt, cemented and bituminous pavement layers, complete as specified...”

<b>Item</b>		<b>Unit</b>
-------------	--	-------------

**B39.02 Excavation in existing pavements for patching in:**

(c) Other layers

(l) Existing 30 – 50 mm thick surfacing seal ..... cubic-metre (m<sup>3</sup>)

(ii) Existing 150 mm thick G4 base course ..... cubic-metre (m<sup>3</sup>)

(iii) Existing 150 mm thick G5 – G7 subbase..... cubic-metre (m<sup>3</sup>)

*Add the following to the end of the third paragraph:*

“...and the size of the patch to be excavated.”

<b>Item</b>		<b>Unit</b>
-------------	--	-------------

**B39.02 Excavation in existing pavements for patching in:**

(b) Base material stabilized with bitumen emulsion (2% net bitumen using 60% anionic stable-grade emulsion and 1% CEM II, 32.5N) for a patch with a surface area:

(i) Insitu material (G5):

(1) Existing 30 – 50 mm thick surfacing seal .....cubic-metre (m<sup>3</sup>)

(2) Existing 150 mm thick G4 base course ..... cubic-metre (m<sup>3</sup>)

(3) Existing 150 mm thick G5 – G7 subbase ..... cubic-metre (m<sup>3</sup>)

## (ii) Imported material from commercial sources (G5):

- (1) Existing 30 – 50 mm thick surfacing seal..... cubic-metre (m<sup>3</sup>)
- (2) Existing 150 mm thick G4 base course.....cubic-metre (m<sup>3</sup>)
- (3) Existing 150 mm thick G5 – G7 subbase.....cubic-metre (m<sup>3</sup>)

Add the following pay item:

**Item****Unit****“B39.03/42.02 Backfilling of excavations for patching with**

- (i) *Asphalt Base (Continuously grade, 28mm max size 50/70 penetration grade bitumen)*
  - (i) *Not exceeding 5m<sup>2</sup>.....t*
  - (ii) *Exceeding 5m<sup>2</sup> but not exceeding 100m<sup>2</sup> .....t*
  - (iii) *Exceeding 100m<sup>2</sup> using an asphalt paver .....t*
- (ii) *Asphalt surfacing (Continuously graded medium A-E2 modified asphalt):*
  - (i) *Not exceeding 5m<sup>2</sup>.....t*
  - (ii) *Exceeding 5m<sup>2</sup> but not exceeding 100m<sup>2</sup> .....t*
  - (iii) *Exceeding 100m<sup>2</sup> using an asphalt paver .....t*

Add the following paragraphs after the last paragraph ending with “ provision and application of the stabilizing agents”:

“The rates of application and mix proportions of bituminous binder, aggregate and fillers which are given in tables 4202/6 up to 4202/10, may be used for tendering purposes. However, the actual mix proportions and application rates will be confirmed after the required sampling tests together with his proposed mix designs in accordance with table 8104/1, has been received and approved by the engineer prior to ordering.”

- (iii) *Base material stabilized with bituminous emulsion (3% net bitumen using anionic stable grade (60% emulsion and 1% CEM II ,32.5N) for a patch with a surface area:*
  - (i) *In situ material*
    - 1) *Not exceeding 5m<sup>2</sup>.....m<sup>3</sup>*
    - 2) *Exceeding 5m<sup>2</sup> but not exceeding 100m<sup>2</sup> ..... m<sup>3</sup>*
    - 3) *Exceeding 100m<sup>2</sup> using an asphalt paver ..... m<sup>3</sup>*
  - (ii) *Imported material from commercial sources (G5)*
    - 1) *Not exceeding 5m<sup>2</sup>.....m<sup>3</sup>*
    - 2) *Exceeding 5m<sup>2</sup> but not exceeding 100m<sup>2</sup> ..... m<sup>3</sup>*
    - 3) *Exceeding 100m<sup>2</sup> using an asphalt paver ..... m<sup>3</sup>*

*“Remove the sentence that starts with “the tendered rate shall also include full compensation for supplying and installing a weighbridge “in the second last paragraph. Add the following “the contractor should make necessary arrangements that asphalt purchased is weighed and the amount delivered to Upington has been documented and signed off prior to payment of any tonnage”*

*Add the following pay item:*

Item	Unit
<b>B39.06/42.04 Tack coat of 30% stable-grade emulsion.....</b>	<b>litre (ℓ)</b>

*Provide the following paragraph below item B39.06/42.04:*

The unit of measurement shall be the litre of 30% stable-grade emulsion applied as specified.

The tendered rate shall include for the procuring, finishing and application of the material as specified.

*Add the following new section:*

**“B3908 CONSTRUCTION TOLERANCES, FINISH REQUIREMENTS AND RESTRICTIONS**

The final riding surface on any particular point on patches or between the patch and existing surface shall not deviate more than 5mm from the bottom of a 3m long straight edge.”

**COLTO SERIES 4000: ASPHALT PAVEMENTS AND SEALS****SECTION B4200: ASPHALT BASE AND SURFACING****B4202 MATERIALS****a) Bituminous binders****(i) Conventional binders***Add the following:**“The binders to be used shall be as follows:*

- (a) Continuously graded surfacing course: 50/70 penetration grade bitumen*
- (b) Continuously graded base: 30/50 penetration grade bitumen”.*

**(ii) Non-homogeneous (heterogeneous) modified binders***Replace the last sentence with the following:**“The bitumen-rubber binder shall be manufactured according to the guidelines contained in “Technical Guideline: The use of Modified Bituminous Binders in Road Construction (TG 1-2015): Asphalt Academy”***(2) Rubber***Delete “Table 4202/1” in the last sentence and replace with “Table B4202/1”.***TABLE B4202/1: REQUIREMENTS FOR RUBBER CRUMBS**

Property	Requirement	Test Method
Sieve analysis (% mass)	40 - 70	MB-14
Passing screen		
1,0		
0,600		
0,075	0 - 5	MB-16
Fibre length (mm)	6 max	
Bulk density (kg/m <sup>3</sup> )	300 - 400	

**(3) Extender oil***Delete “Table 4202/2” in the first sentence and replace with “Table B4202/2”*

**TABLE B4202/2: REQUIREMENTS FOR EXTENDER OIL**

Property	Limits
Flash Point	180°C (min)
Percentage by mass of saturated hydrocarbons	25% (max)
Percentage by mass of aromatic unsaturated hydrocarbons	55% (min)

(4) Bitumen rubber blend

*Delete "Table 4202/3" in the second paragraph and replace with "Table B4202/3"*

**TABLE B4202/3: NOMINAL BITUMEN-RUBBER COMPOSITION**

Component	Percentage by mass
Bitumen	72 - 82
Extender oil	0 - 4
Rubber crumb	18 - 24
High boiling point fluxing agent	0 - 4

Notes:

1. The addition of a diluent is not recommended in bitumen-rubber for use in hot mix asphalt applications.
2. The reaction time for the product is highly influenced by the composition of the base bitumen and the particle size of the rubber crumbs, and it may remain acceptable for up to 6 hours.
3. No payment shall be applicable for any variation in compositional blend.

*Delete "Table 4202/4" in the second last paragraph and replace with "Table B4202/4 and Table B4202/14":*

**TABLE B4202/4: PROPERTIES OF BITUMEN-RUBBER FOR USE IN ASPHALT**

Property		Unit	Test Method	Class A-R1
Softening Point <sup>1</sup>		°C	MB-17	55 - 65
Dynamic Viscosity @ 190°C		dPa.s	MB-13	20 - 50
Compression recovery	5	%	MB-11	> 80
	1 hour			> 70
	24			n/a
Resilience @ 25°C		%	MB-10	13 - 40
Flow		mm	MB-12	10 - 50

<sup>1</sup> The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For referencing purposes no stirrers should be used.

**TABLE B4202/14: TEMPERATURE/TIME LIMITS FOR BITUMEN RUBBER**

Binder Class	Short Term Handling		Storage		Spraying/Asphalt mixing/Application		
	Max Temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
A-R1	170	24	150	240 <sup>1</sup>	210	190 <sup>2</sup>	Refer to time/viscosity curve

<sup>1</sup> If the recommended time period has been exceeded, the binder should be resampled and tested to ensure that the properties of the binder have not degraded.

<sup>2</sup> Minimum temperatures for asphalt manufacturing are viscosity dependent.

(iii) Homogeneous modified binders

Replace the last sentence with:

“The modified binder to be used on this project shall be A-E2

The homogeneous modified binder shall be manufactured according to the guidelines contained in “Technical Guideline: The use of Modified Bituminous Binders in Road Construction (TG 1-2015): Asphalt Academy”. The base bitumen shall conform to SANS 4001-BT1:2012, or a blend of SANS 4001-BT1:2012 grades. The type as well as percentage of modifier is not prescribed, however the contractor shall indicate in the Pricing Schedule what polymer he shall be using. The properties of the homogeneous modified binder shall comply with the relevant requirements for binder class A\_E2 as listed in table B4202/12.

**TABLE B4202/12: PROPERTIES OF POLYMER-MODIFIED BINDER FOR HOT-MIX ASPHALT**

Property	Unit	Test Method	Class
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Before ageing			A-E1	A-E2	A-P1
Softening point <sup>2</sup>	°C	MB-17	55-65	65-85	63-73
Elastic recovery @ 15°C	%	MB-4	> 50	> 60	30 - 50
Dynamic viscosity @ 165°C	Pa.s	MB-18	≤ 0,6	≤ 0,6	≤ 0,55
Storage stability @ 180°C <sup>1</sup>	°C	MB-6	≤ 5	≤ 5	≤ 5
Flash point	°C	ASTM D92	≥ 230	≥ 230	≥ 230
<b>After ageing (RTFOT)</b>					
Mass change	%	MB-3	≤ 1,0	≤ 1,0	≤ 1,0
Softening point (min)	°C	MB-17	53	63	61
Elastic recovery @ 15°C	%	MB-4	> 40	> 50	

<sup>1</sup> Certain base bitumen's, when used in the production of modified binders, are prone to cause segregation of the modified binder. The Storage Stability test result should be interpreted as an indicator of the compatibility of the base bitumen and the modifier used. In cases where compliance limits are not met, proposals of site agitation procedures of the binder to prevent segregation shall be submitted to the client for consideration. In all cases, whenever there is any reason to believe that the composition of the base bitumen has changed, the test shall be repeated to ensure compliance or to determine the need for measures to prevent segregation.

<sup>2</sup> The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For referencing purposes no stirrers should be used.



**TABLE B4202/15: TEMPERATURE/TIME LIMITS FOR POLYMER MODIFIED BINDERS**

Binder Class	Short Term Handling/ Transportation		Storage <sup>1</sup>		Spraying/Asphalt Mixing/Application		
	Max Temp (°C)	Max Holding Time (hrs)	Max Temp (°C)	Max Holding Time <sup>2</sup> (hrs)	Max Temp (°C)	Min Temp (°C)	Max Holding Time (hrs)
A-E1 (SBR)	180	24	160	240	190	175	8
A-E1 (SBS)	180	24	160	240	180	160	12
A-E2 <sup>3</sup>	180	24	160	240	180	170	12
A-P1	180	24	150	240	170	150	24

<sup>1</sup> When storing product for 48 – 240 hours, it is recommended that the tank has agitation circulation.

<sup>2</sup> If the recommended maximum holding time has been exceeded, the binder should be resampled and tested to ensure compliance with the specification.

<sup>3</sup> A-E2 temperature to be confirmed by practitioners and historical data.

## **b) Aggregates**

*Add the following paragraph to the introductory description:*

“Asphalt mixes shall be manufactures using different individual single size coarse aggregates fractions and crushed fine aggregates blended to conform to the specified grading requirements. The use of natural sands shall only be permitted if approved by the engineer and shall be limited to a maximum of 5% for continuously graded mixes. All aggregate in excess of 5mm shall consist of individual nominal single sized aggregate. For stone mastic asphalt mixes all aggregate fractions in excess of 2mm shall consist of individual single size fractions. The Contractor shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional on site screening. No additional payment shall be made for screening aggregate. The use of run of crusher type materials shall not be permitted.”

### **(v) Absorption**

*Add the following sentence:*

“In addition, the total binder absorption of the combined coarse and fine aggregate blend shall not exceed 0,5%”

### **(viii) Grading**

*Delete the second paragraph commencing with "The target grading..." and add the following paragraphs \**

“The grading limits for the combined aggregate grading for the asphalt surfacing shall be as specified in table 4202/7: Continuously graded medium grade.

**c) Fillers**

*Delete the second last sentence of the first paragraph and replace with:*

“With the exception of stone mastic asphalt, in no instance shall more than 2% by mass of active filler be used in the mixes.”

*Add the following after the last paragraph:*

“For tender purposes the active filler shall be hydrated lime”

**B4203 COMPOSITION OF ASPHALT BASE AND SURFACING MIXTURES**

*In the first paragraph, third last line, after “or active filler content” add:*

“or aggregate content”

*Replace the fifth paragraph with the following:*

“The design of the asphalt mixes shall be in accordance with “Interim Guidelines For The Design Of Hot-Mix Asphalt In South Africa (June 2001)”, and appropriate research results. The mix properties and requirements shall be as specified in the project specifications”

The relevant asphalt mixes for the base and surfacing layers shall comply with the requirements in table B4203/1.

*Replace Table 4202/6 with:*

**TABLE B4202/6: GRADING LIMITS FOR COMBINED AGGREGATE FOR ASPHALT BASE**

	Sieve size (mm)	Maximum nominal size (mm)			
		Semi-gap		Continuously graded	
		37,5	28	37,5	28
		Percentage passing sieve by mass			
	37,5	100		100	
	28	87 – 100	100	86 – 95	100
	20	77 – 96	93 – 100	73 – 86	87 - 96
	14		83 – 94	61 – 76	73 - 85
	10	61 – 81	73 – 88	52 - 68	64 - 79
	7		62 – 77		
	5	46 – 61	51 – 65	37 – 54	43 – 61
	2	39 – 51	39 – 51	23 - 40	28 - 44
	1	35 - 46	35 – 46	17 - 32	20 - 35
	0,600	32 – 42	32 – 42		15 – 30
	0,300	22 – 35	22 – 35	9 – 21	11 – 24
	0,150	10 – 20	10 – 20	6 – 17	8 – 19
	0,075	4 - 10	4 – 10	4 - 12	5 - 12
<b>Nominal Mix Proportions by Mass when Bitumen is Used</b>	<b>Aggregate</b>	93,5%		95%	94,5%
	<b>Bitumen (grade according to project specifications)</b>	5,5%		4%	4,5%
	<b>Active filler*</b>	1,0%		1,0%	1,0%

\* Active filler for tender purposes to be hydrated lime.

Notes:

1. For recycled asphalt the nominal mix ratios of recovered asphalt, new aggregate, new bituminous binders, and active mineral filler to be used for tender purposes, shall be as specified in Table B4202/16.
2. Refer to standard COLTO table for COLTO grading if required

**TABLE B4202/7 PART 2: GRADING LIMITS FOR COMBINED AGGREGATE FOR ASPHALT SURFACING**

	Sieve size (mm)	Continuously graded			Semi-open graded
		Coarse	Medium	Fine	
<b>PERCENTAGE THROUGH SIEVE BY MASS</b>	28	100			
	20	88 – 100			100
	14	73 – 86	100		75 – 100
	10	64 – 77	85 – 100	100	53 – 85
	5	44 – 62	56 – 77	66 – 89	20 – 41
	2	27 – 45	33 – 48	42 – 59	7 – 20
	1	21 - 35	25 - 40	31 - 51	4 - 13
	0,600	16 – 28	18 – 32	24 – 40	3 – 10
	0,300	12 – 20	11 – 23	16 – 28	3 – 8
	0,150	8 – 15	7 – 16	10 – 20	2 – 6
	0,075	4 - 10	4 - 10	4 - 12	1 - 4
<b>NOMINAL PROPORTIONS BY MASS</b>	<b>AGGREGATE</b>	93,5%	93,5%	93,0%	90,5%
	<b>BITUMEN (GRADE ACCORDING TO PROJECT SPECIFICATIONS)</b>	5,5%	5,5%	6,0%	8,5%
	<b>ACTIVE FILLER</b>	1,0%	1,0%	1,0%	1,0%

Notes:

1. For recycled asphalt the nominal mix ratios of recovered asphalt, new aggregate, new bituminous binders, and active mineral filler to be used for tender purposes, shall be as specified in Table B4202/16
2. Refer to standard COLTO table for COLTO grading if required

Replace Table 4202/8 with:

**TABLE B4202/8: GRADING LIMITS FOR COMBINED AGGREGATE FOR NON-HOMOGENEOUS MODIFIED BINDERS CONTINUOUSLY GRADED ASPHALT SURFACING**

Sieve size (mm)	Continuously graded	
	Maximum stone size	
	14 mm	20 mm
20		100
14	100	86 - 97
10	83 – 100	72 – 86
5	53 – 72	47 – 64
2	30 - 47	26 – 43
1		17 - 30
0,600	13 – 25	13 – 25
0,300	8 – 18	10 – 18
0,150		6 – 13
0,075	4 - 8	4 - 10
<b>Nominal mix proportions</b>		
<b>Aggregate</b>	91%	91%
<b>Modified binder</b>	7%	7%
<b>Active filler</b>	2%	2%

Note:

Refer to standard COLTO table for COLTO grading if required

Replace Table 4203/1 with:

**TABLE B4203/1: ASPHALT MIX REQUIREMENTS: BASE AND SURFACING**

Property	Continuously graded base mixes	Continuously graded surfacing mixes
Marshall Stability (kn)	8 – 18	8 – 18
Marshall Flow (mm)	2 – 6	2 – 6
Stability /Flow (kN/mm)	>2,5	> 2,5
VMA (%)	> 14	> 15
VFB (%)	65 – 75	65 – 75
Air voids (%)	4 – 6	4 – 6
Indirect tensile strength @ 25°C (kPa)	> 1000	> 1000
Dynamic Creep Modulus @ 40°C (MPa)	> 20	> 20
Modified Lottmann @ 7% voids (TSR)	> 0,7	> 0, 8
Air permeability @ 7% voids (cm <sup>2</sup> )	< 1 x 10 <sup>-8</sup>	< 1 x 10 <sup>-8</sup>
Binder film thickness (microns)	5,5 – 8,0	5,5 – 8,0
Filler bitumen ratio	1 – 1,5	1 – 1,5
Immersion index (%)	-	-

**B4205 GENERAL LIMITATIONS AND REQUIREMENTS AND THE STORAGE OF MIXED MATERIAL**

(a) Weather Conditions

*Add the following paragraph after the last paragraph ending with “definitely rising.”*

*“The air temperature should be monitored and considered during the compilation of the construction programme.”*

(b) Moisture

*Amend the last paragraph as follows:*

*Insert “and/or primed base” after “surfacing” in the third line of the first sentence.*

*Replace the last sentence with “In such case the base shall be allowed to dry out to meet the above moisture content requirement prior to placing the surface layer.”*

(c) Surface requirements

(iii) Tack Coat

*Add the following paragraph:*

*“Hand spraying shall only be permitted on areas approved by the engineer. The binder distributor shall be capable to apply the binder evenly over the full area. The equipment shall comply with clause 4103. Tack coat shall be applied to all transverse and longitudinal joints by hand utilizing a paint brush.”*

(d) **Storage**

*Add the following paragraph after the last paragraph ending with “following mixing.”*

*“The asphalt purchased and delivered should be stored according to the product data sheet provided by the manufacture and within the tolerances provided in table 4206/1.”*

**B4208 JOINTS**

*Add the following to this clause:*

“Where the difference in level between the new work and the existing road surface exceeds 25mm, joints shall be treated as follows:

Transverse steps at the end of a day’s work shall be tapered off at a slope of 1 vertical to 20 horizontal (1:20) to tie in with the existing surface. The tapered section shall be removed before surfacing is recommenced and a joint formed in accordance with clause 4208 of the specification.

Longitudinal joints exposed to traffic shall be provided with a taper of compacted asphalt material over the full length of the exposed joint. The width of the taper shall be at least 5 times the difference in level between the old and new work.

All costs involved in the provision and removal of these temporary ramps shall be deemed to have been included in the rates tendered for the relevant asphalt pay item.”

**B4211 LAYING A TRIAL SECTION**

*Replace the word “300m<sup>2</sup> and 600m<sup>2</sup> in area” with 150m<sup>2</sup> and 250m<sup>2</sup>.*

*Insert the following paragraph after the wording “laboratory design phase” in the second paragraph:*

*“The position trial section will be identified by the engineer and it remains the contractor’s responsibility to ensure this section has been carried out successfully in order to comply with specifications and to remain within his programme.”*

**B4215 MEASUREMENT AND PAYMENT**

**Item**

**Unit**

**B42.08 100mm cores in asphalt paving.....No.**

**B42.11 Asphalt layer constructed for rehabilitation purposes in accordance with the provisions of subsubclauses 4213(f)ii or 4213(f)(iii) .....No.**

(b) Surfacing or overlay constructed with new asphalt (A-E2 modified max aggregate size 14mm)

(i) Continuously graded (40mm thick) ..... t

“Please note, the contractor will be responsible to ensure site temperatures prior to application are according to the COLTO specifications. The transportation of Asphalt should be the contractor’s responsibility and therefore suitable thermal protection should be used. The supplier in conjunction with Contractor, should ensure suitable mixing proportions to ensure the required compaction (as per Colto specification for A-E2) of Asphalt. If suitable compaction is not reached, the product will not comply with COLTO and therefore will not be considered for payment and will be required to be milled out and re-applied, for the contractor’s account not the employer. Sufficient planning and consultation will be required prior to commencement of works.



**SECTION B4300: SEALS: MATERIALS AND GENERAL REQUIREMENTS****B4301 SCOPE**

Add the following paragraph:

“The contractor shall take and submit samples of materials and/or mixtures to the engineer who must approve designs before construction work can commence.”

**B4302 MATERIALS**

Add the following to the first paragraph:

“Any tests referred to in the publication “Technical Guideline (TG1): The Use of Modified Bituminous Binders in Road Construction (TG 1-2015): Asphalt Academy”, shall supersede those specified in the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition). This document is available from the Asphalt Academy.”

**a) Bituminous binders**

(ii) Non-homogeneous (heterogeneous) modified binders (summer grade)

(4) Diluent

Add the following sentence:

“The addition of a diluent or cutter to the blend shall not be permitted unless approved by the engineer.”

(5) Bitumen-rubber blend

Replace table 4302/3 in the first paragraph and table 4302/4 in the fourth paragraph respectively with:

“table B4302/3 and table B4302/4”

*In the fourth paragraph, add the following after the word “requirements”:*

“for binder class S-R1”.

Replace Table 4302/1, 4302/3 and 4302/4 with the following:

**TABLE B4302/1**

Property	Requirement	Test Method
Sieve analysis (% mass)	100	MB-14
Passing screen		
1,0		
0,600	40 - 70	
0,075	0 - 5	
Fibre length (mm)	6 max	
Bulk density (kg/m <sup>3</sup> )	300 - 400	MB-16

**TABLE B4302/3: NOMINAL BITUMEN-RUBBER COMPOSITION**

Component	Percentage by mass
Bitumen	72 - 82
Extender oil	0 - 4
Rubber crumb	18 - 24
High boiling point fluxing agent	0 - 4

**Notes:**

1. The addition of a diluent is not recommended in bitumen-rubber for seal work.
2. The reaction time for the product is highly influenced by the composition of the base bitumen and the particle size of the rubber crumbs, and it may remain acceptable for up to 6 hours. Also see note (\*2) under Table B4202/3.
3. No payment shall be applicable for any variation in compositional blend.

**TABLE B4302/4: PROPERTIES OF BITUMEN-RUBBER FOR USE IN SURFACE SEALS**

Property		Unit	Test Method	Class
				S-R1 & NCRT
Softening Point <sup>1</sup>		°C	MB-17	55 - 65
Dynamic Viscosity @ 190°C		dPa.s	MB-13	20 - 40
Compression recovery	5 minutes	%	MB-11	> 70
	1 hour			> 70
	24 hours			> 40
Resilience @ 25°C		%	MB-10	13 - 35
Flow		mm	MB-12	15 - 70

<sup>1</sup> The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For refereeing purposes, no stirrers should be used.

(iv) Homogenous cold applied modified binders

*Replace the entire sub-sub-clause with the following:*

## “(1) Base bitumen

The cationic emulsion shall be manufactured from bitumen complying with the requirements of SANS 4001-BT1:2012.

## (2) Polymer

The contractor shall indicate, in the relative pay item in the Pricing Schedule, the type of polymer to be used in the blend.

## (3) Polymer modified emulsion blend

All blending shall be done at the factory. The modified binder for this project shall be SC-E1 (65-68) or SC-E1 (70-73) and shall comply with the requirements in table B4302/5.

The recovered binder residue shall be obtained using either the rotary vacuum evaporation or simple evaporation method. If there is any discrepancy in the test results then the results on recovered binder obtained from the rotary vacuum evaporation method shall be binding.

The use of a volatile solvent flux added to the bitumen shall not be permitted unless approved by the engineer.”

Replace Tables 4302/5 and 4302/6 with the following:

**TABLE B4302/5: PROPERTIES OF POLYMER MODIFIED EMULSIONS FOR SURFACE SEALS**

Property		Unit	Test Method	Class			
				SC-E1		SC-E2	
Binder content (m/m) <sup>1</sup>		%	MB-22	65-68	70-73	65-68	70-73
Saybolt Furol viscosity @ 50°C		sec	MB-21	51-200	51-400	51-200	51-400
Residue on sieving <sup>2</sup> (/100 ml)	710µm sieve	g	MB-23	≤0.1		≤ 0.1	
	150µm sieve			≤ 0.5		≤ 0.5	
Particle charge			MB-24	positive		positive	
Sedimentation after 60 rotations			SANS 4001 BT3	nil		nil	
Properties of recovered binder residue Test Method (MB-20) <sup>3</sup>							
Softening point <sup>4</sup>		°C	MB-17	≥ 48		≥ 55	
Elastic recovery @ 15°C		%	MB-4	≥50		≥ 55	

<sup>1</sup> For steep inclines, severe cross fall and higher application rates it is advisable to use the higher binder content emulsion to reduce runoff.

<sup>2</sup> Pour the emulsion through the larger sieve to remove the skin and larger particles before passing the emulsion through the finer sieve.

- 3 *Either the rotary vacuum or the simple evaporation method can be used. For on-site testing the simple method is more practical and is thus recommended. The simple method retains most of the fluxing oils whereas these are removed in the rotary vacuum method. The latter method renders a better indication of the binder properties after in-service curing.*
- 4 *The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For refereeing purposes no stirrers should be used.*

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

Replace the entire sub-sub-clause with the following:

“(1) Base bitumen

The base bitumen or blends thereof, shall comply with the requirements of SANS 4001-BT1:2012. In addition, the chemical composition of the bitumen shall be such as to permit blending with the proposed polymer to form a stable product.

(2) Polymer

The type and percentage of polymer to be blended with the bitumen is not prescribed, however the contractor shall indicate, in the relevant pay item in the Pricing Schedule, the type of polymer to be utilized.

(3) Polymer modified blend

The polymer modified bitumen shall be blended at the factory.

The polymer modified bitumen to be used on this project shall be S-E1 and shall comply with the requirements of table B4302/7.

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

Replace Table 4302/7 with the following table B4302/7:

**TABLE B4302/7: PROPERTIES OF POLYMER MODIFIED BINDERS FOR HOT SEALING APPLICATIONS**

Property	Unit	Test Method	Class	
Before ageing			S-E1	S-E2
Softening Point <sup>4</sup>	°C	MB-17	50 – 70	60 - 80 <sup>1</sup>
Elastic recovery @ 15°C	%	MB-4	> 50	> 60
Dynamic Viscosity @ 165°C	Pa.s	MB-18	≤ 0.55	≤ 0.60
Storage Stability @ 180°C <sup>2</sup>	°C	MB-6	≤ 5	≤ 5
Flash Point	°C	ASTM D92	≥ 230	≥ 230
Mass change <sup>3</sup>	%	MB-3	≤ 1.0	≤ 1.0

- 1 The softening point values obtained for bitumen modified with SBS will tend to fluctuate over time and on reheating. Road surfaces could become too rigid at low overnight temperatures with resultant poor adhesion properties.
- 2 Certain base bitumen's, when used in the production of modified binders, are prone to cause segregation of the modified binder. The Storage Stability test result should be interpreted as an indicator of the compatibility of the base bitumen and the modifier used. In cases where compliance limits are not met, proposals of site agitation procedures of the binder to prevent segregation shall be submitted to the client for consideration. In all cases whenever there is any reason to believe that the composition of the base bitumen has changed, the test shall be repeated to ensure compliance or to determine the need for measures to prevent segregation
- 3 Mass loss gives an indication of the presence of volatiles in the binder.
- 4 The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For refereeing purposes, no stirrers should be used.

## b) Aggregates

### (l) Aggregates for seals

Add the following at the end of the sentence:

“and durability.”

#### (1) Grading

Add the following:

“Only grade 1 aggregate shall be used for the construction of seals on this project.”

#### (3) Shape

Add Table B4302/13 and the following paragraph:

“Ninety five (95%) percent of the particles shall have at least three fractured faces. The Average Least Dimension (ALD) of the relevant nominal aggregate sizes shall comply with the requirements of Table B4302/13.”

## TABLE B4302/13: MINIMUM ALD REQUIREMENTS

Nominal Aggregate Size (mm)	Minimum ALD (mm)
20	12,0
14	8,0
10	5,5

Replace Table 4302/8 with:

**TABLE B4302/8:**

Sieve size (mm)	Grade	Percentage by mass passing						
		Nominal size (mm)						
		28	20	14	10	7	5	2
37,5	1 & 2	100						
28		85 – 100	100					
20		0 – 30	85 – 100	100				
14		0 - 5	0 – 30	85 – 100	100			
10			0 - 5	0 – 30 <sup>#</sup>	85 – 100	100		
7				0 – 5 <sup>##</sup>	0 – 30 <sup>#</sup>	85 – 100	100	
5					0 – 5 <sup>##</sup>	0 – 30 <sup>#</sup>	85 - 100	100
3,35							0 – 30	
2,0						0 – 5 <sup>##</sup>	0 - 5	0 – 100
	3	Grading's shall comply with the requirements for Grades 1 and 2 with the following exceptions: <sup>#</sup> 0 – 50, <sup>##</sup> 0 – 10						
Fines content: passing 0,425 mm sieve	1	0,5	0,5	0,5	0,5	0,5	1,0	15
	2	1,5	1,5	1,5	1,5	1,5	2,5	15
	3	2,0	2,0	2,0	2,0	3,0	3,5	15
Dust content: passing 0,075 mm sieve	1	0,2	0,2	0,2	0,2	0,5	0,5	2,0
	2	0,5	0,5	0,5	0,5	1,0	1,0	2,0
	3	1,5	1,5	1,5	1,5	1,5	1,5	2,0

Note: Refer to standard COLTO table for COLTO grading if required

Replace Table 4302/9 with:

**TABLE B4302/9:**

Sieve sizes (mm)	Percentage passing by mass
5	95 minimum

Sieve sizes (mm)	Percentage passing by mass
0,425	50 minimum
0,075	20 maximum
<b>Plasticity index = Non-plastic</b>	

*Note: Refer to standard COLTO table for COLTO grading if required.*

Replace Table 4302/10 with:

**TABLE B4302/10:**

Nominal size of aggregate (mm)	Maximum flakiness index (%)	
	Grade 1	Grade 2
20	25	30
14	25	30
10	30	35
7	30	35

*Note: Refer to standard COLTO table for COLTO grading if required*

Replace Table 4302/11 with:

**TABLE B4302/11:**

Sieve size (mm)	Percentage passing sieve by mass				
	Fine slurry			Coarse slurry	
	Fine grade	Medium grade	Coarse grade	Type 1	Type 2
14					100
10				100	86 – 100
7		100	100	87 – 100	71 – 91
5	100	84 – 100	72 – 91	72 – 91	62 – 82
2	84 – 99	51 - 90	40 – 64	40 - 63	36 – 56
1	60 - 90	33 – 68	25 - 46	22 – 41	22 - 41
0,600	42 – 72	22 – 50	19 – 34	15 – 30	15 – 30
0,300	23 – 48	15 – 37	12 – 25	10 – 20	10 – 20
0,150	10 – 27	7 – 20	7 – 18	6 – 15	6 – 15
0,075	4 - 12	4 - 12	2 - 8	4 - 10	4 - 10

*Note: Refer to standard COLTO table for COLTO grading if required*

*Delete Table 4302/12 without replacement.*

*Add the following sub-sub-clause:*

“(4) Durability

Aggregate used in seals and asphalt shall show a durability index of less than 4 as determined by the test method specified in Clause B8105 paragraph (g)."

(ii) Aggregate for slurry seals

In the first paragraph, add the following after the first sentence:

“The engineer may order the addition of an approved natural sand or additional cement to improve either the permeability or workability of the slurry.”

Add the following sub-sub-clause:

“(iii) Aggregate for blinding

The aggregate used for blinding the single seal shall consist of 2,00mm to 5mm crushed aggregate or river sand. The aggregate shall be clean, hard and free from clay, silt or other deleterious matter.”

#### **d) Hydrophilic aggregates**

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

In the second paragraph, delete “12 litre” in the second sentence, and add the following sentence:

“Pre-coating fluid shall be manufactured from petroleum based products. The use of tar based pre-coating fluids will not be permitted. For tender purposes the nominal quantity of pre-coating fluid for the relevant nominal aggregate sizes is specified in table B4302/14.”

**TABLE B4302/14: NOMINAL APPLICATION RATES FOR PRECOATING FLUID**

Nominal aggregate size (mm)	Nominal pre-coating application rate (l/m <sup>3</sup> )
20	12
14	16
10	19
7	22

Add the following sub-clauses:

#### **“e) Water for diluting emulsions**

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

#### **f) Testing of polymer modified bitumen/emulsion**

Testing shall be in accordance with the methods described in “Technical Guideline: The use of Modified Bituminous Binder in Road Construction (TG 1-November-2007): Asphalt Academy”.

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



**B4303 PLANT AND EQUIPMENT****b) Binder distributor**

*Add the following:*

"Prior to the commencement of any work, a calibration certificate, not older than 12 months, for the binder distributor shall be presented to the engineer for approval.

The binder distributor shall be capable of spraying the binder at the specified application rates and to the satisfaction of the engineer. The pump of the distributor shall be capable of delivering the binder at the spray bar nozzles at the correct pressure to obtain the specified application rates, irrespective of the viscosity properties of the prescribed binder. The spray bar of the distributor shall be fitted with fishplates at the outside edge of the bar to prevent over spraying onto gravel shoulders or staining of concrete elements on the edge of the surfacing of the road

In addition, the transverse distribution of the spray bar shall be field-verified by means of SANS 3001-BT24: Civil engineering test methods Part BT24: Measurement of transverse distribution ('Bucket test') for a binder distributor. The maximum permissible tolerance permitted between the troughs (excluding the outer 300mm) is dependent on the viscosity of the binder type being applied and shall be as follows:

- Emulsions, cutback and penetration grade bitumen's - 5%
- Homogeneous modified bitumen's - 7%
- Non- homogeneous binders (bitumen rubber) - 10%

The spray bar shall be of such design as to allow for any adjustments to be made in order to meet the above tolerances. This procedure shall be carried out each time the distributor is first established on site and once a week thereafter or when a problem with transverse distribution is suspected. The binder distributor shall thus have a set of troughs available in order to allow the execution of the test. For limited quantities of spray-work, the engineer may accept the results of a recently completed distribution test that has been recorded and approved by an independent supervisor on the distributor's test log book.

The binder distributor shall be fitted with a suitable valve or other access gate for taking of samples of the binder for testing purposes."

All plant purchased for this project will be handed over to the Municipality.

**c) Chip spreaders**

*Add the following at the end of the first paragraph:*

"The chip spreader shall be capable of delivering a proper and uniform transverse distribution of chips across the conveyor belts. The chip distribution shall be tested by means of canvas patches, each 1,0m by 1,0m and placed side by side. The mass of chips spread onto each individual canvas patch shall not deviate by more than 10% from the calculated average spread per canvas patch."

*Add the following to the last paragraph:*

"A non-self-propelled chip spreader may only be used in the event of a breakdown of the self-propelled chip spreader during a pull, and shall be limited to the completion of that pull. No further application of binder shall be permitted until such time as the self-propelled chip spreader is repaired or replaced."

**B4304 GENERAL LIMITATIONS AND REQUIREMENTS**

## a) Weather limitations

*Add the following:*

“Seal work using bitumen rubber or hot applied polymer modified binder shall not be permitted during the months of November to February. Winter grade binders shall not be used in any seal work and the contractor’s program shall reflect this limitation.”

## b) Moisture content

*Replace “reseal” with “seal” in the second line of the second sentence.*

*Insert “and/or primed base” after “surfacing” in the third line of the second sentence.*

*Replace the last sentence with “In such case the base shall be allowed to dry out to meet the above moisture content requirement prior to placing the seal layer.”*

## (l) General

*Add the following:*

“Seal work shall not be permitted on granular base layers if the moisture content in the upper 50mm exceeds 50% of the optimum moisture content, determined in accordance with SANS 3001-GR30 (replacing TMH1 Method A7). This limitation shall apply even if the layer has been previously primed.

Sealing work shall not commence until the engineer has approved all other works ordered on that section of road.”

## e) Demarcation of the working areas

## (l) New work

*Add the following:*

“Before the tack coat and first application of aggregate may be applied, the centreline of the road shall be demarcated by means of a clearly visible weather able fibre rope, pegged down with nails driven into the existing surface at intervals of 15m on straight sections and 3m apart on curves. The demarcating rope shall be removed prior to the application of the tack coat and aggregate on the adjacent lane.”

**B4305 HEATING AND STORAGE OF BITUMINOUS BINDERS**

## b) Non-homogeneous (heterogeneous) modified binders (summer grade)

*Replace the entire sub-clause with:*

“After completion of the bitumen-rubber reaction, the handling of the binder shall comply with the requirements listed in table B4305/4. The binder may only be stored in tanks with circulation systems.

The engineer’s supervisory staff shall, through timeous notification by the contractor, be afforded the opportunity to attend all bitumen rubber-blending operations in order to exercise control sampling and testing of the binder from the stage just prior to the addition of the rubber to the base bitumen up to the end of the allowable spraying period. Failure to conform to this requirement will be considered reason enough by the engineer to reject the batch of binder.”

**TABLE B 4305/4: TEMPERATURE/TIME LIMITS FOR BITUMEN-RUBBER**

Binder Class	Short Term Handling		Storage		Spraying/Asphalt mixing/Application		
	Max Temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
S-R1	170	24	150	240 <sup>1</sup>	210	195	Refer to time/viscosity curve <sup>2</sup>

<sup>1</sup> If the recommended time period has been exceeded the binder should be resampled and tested to ensure that the time periods are not exceeded. .

<sup>2</sup> The Time/Viscosity relationship must be determined for each specific blend.

d) Homogeneous cold applied modified binders

Add the following:

“The requirements for short term handling, storage and application of these binders shall comply with the requirements listed in table B4305/5.”

**TABLE B4305/5: TEMPERATURE/TIME LIMITS FOR POLYMER MODIFIED EMULSIONS**

Binder Class	Short Term handling/ transportation <sup>5</sup>		Storage		Spraying / application		
	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time <sup>4</sup> (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
SC-E1/E2 <sup>1</sup>	60	24	Ambient	>240 <sup>3</sup>	70	50	6
SC-E1/E2 <sup>2</sup>	70	24	Ambient	>240 <sup>3</sup>	80	50	6

<sup>1</sup> This applies to modified emulsions with a binder content of approximately 65% m/m.

<sup>2</sup> This applies to modified emulsions with a binder content of approximately 70% m/m.

<sup>3</sup> The modified emulsion should be gently circulated or stirred at regular intervals to avoid sedimentation over time.

<sup>4</sup> If the recommended maximum holding time has been exceeded, the binder should be resampled and tested to ensure compliance to the specification.

<sup>5</sup> Freshly manufactured product that is transported direct to site may exceed short term handling and transportation maximum temperatures.

e) Homogeneous hot-applied binders (summer grade)

In the second paragraph, replace table 4305/3 with “table B4305/3”:

**TABLE B4305/3: TEMPERATURE/TIME LIMITS FOR HOT POLYMER MODIFIED BINDERS**

Binder Class	Short Term Handling/ Transportation		Storage <sup>1</sup>		Spraying/Asphalt Mixing/Application		
	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time <sup>2</sup> (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
S-E1 (SBR & SBS)	180	24	150	240	210	175	8
S-E1 (SBS)	180	24	150	240	185 <sup>3</sup>	175	12
S-E2	180	24	150	240	185 <sup>3</sup>	175	12

1 When storing product for 48 – 240 hours it is recommended that the tank have agitation circulation.

2 If the recommended maximum holding time has been exceeded the binder should be resampled and tested to ensure compliance with the specification

3 S-E1 and S-E2 (SBS) can be sprayed at a maximum temperature of 195°C, but at the risk of thermal degradation.

#### **B4306 STOCKPILING OF AGGREGATE**

##### **a) General**

*Add the following:*

"The contractor shall heed the environmental requirements of Part C of this volume in the preparation, operation and closure of stockpile sites. The positions for stockpiling of aggregate and the proposed operation methods shall be approved by the engineer before delivery of the aggregate can commence.

After application of the seal all loose stones swept off the road surface are to be heaped either in the drain or gravel shoulder, whichever is applicable, and removed in one operation. No sweepings are to be left on site for more than 24 hours. No sweepings are to be heaped or stored on the vegetated areas of the road reserve. No loose stone is to be spoiled in the road reserve."

#### **B4307 CONSTRUCTION OF SEAL**

##### **b) Single and double aggregate seals**

##### **(l) Application of tack coat and aggregate**

*Replace the last sentence of the fourth paragraph with the following:*

"The contractor shall so place the strips when constructing the seal that the joint between two adjacent aggregate applications shall be located along the centreline and at 3,7m from the centreline."

*Add the following to the fourth paragraph:*

"Joints shall be straight and aggregate shall be broomed back in a neat straight line before the next spray. String lines shall be used to demarcate joint edges. All stone-loss and "tram-lining/ropeing" shall be made good by the contractor at no additional cost."

## (ii) Initial rolling of aggregate

*Replace the second sentence with the following:*

*"In the case of modified emulsions, initial rolling by means of self-propelled 5-ton flat steel wheel rollers shall only be permitted if crushing of aggregate does not occur. Pneumatic-tyred rolling shall be delayed until the emulsion has been allowed to break sufficiently to firmly secure the aggregate. Rolling shall be postponed if there is any pick-up of aggregate on the tyres of the pneumatic type roller."*

## (iii) Broom drag and final rolling of aggregate

*Add the following after the first paragraph:*

*"The contractor shall provide a back-chipping team, together with a pneumatic-tyred roller, of sufficient capacity to ensure that back-chipping and rolling of aggregate shall be completed within thirty minutes after initial application of the aggregate."*

*Replace third paragraph with the following:*

*"After completing the spreading of the aggregate, final rolling shall consist of a minimum of four passes utilizing a 15-ton to 20-ton pneumatic-tyred roller, followed by one or two passes of a 6-8 ton flat steel wheel roller."*

## iv) Joints between binder sprays

*Add the following at the end of the paragraph:*

*"The protective sheets shall be made of reinforced building paper."*

## (v) Protection of kerbs, channels etc.

*Add the following:*

*"Where bitumen binder is to be sprayed directly adjacent to existing concrete kerbs, channels, side drains, concrete edge beams and bridge balustrades, or over bridge joints, such concrete elements shall be covered with an approved reinforced building paper."*

*Add the following sub-sub-clause:*

## “(vi) Trial section

Before the contractor commences with the construction of any seal work he shall demonstrate that the equipment and processes he proposes to use will enable him to construct the seal in accordance with the specified requirements.

At the commencement of the surfacing operation, a 200m half-width section shall be considered as a trial. After completion of each phase of the seal on this 200m section, the engineer will review and then approve/reject the work method. If approval is granted for a specific operation i.e. application of tack coat, aggregate, fog or slurry, the contractor may proceed with that approved operation.

Should the contractor at any stage fail to deliver an acceptable product, he shall rectify the problems at his own cost and demonstrate with a further trial section that he can carry out the operation successfully. No specific payment

shall be made for conducting these trials and the cost thereof shall be deemed to be included in the tendered rates of sections 4400, 4500 and 4600."

#### **B4308 RATES OF APPLICATION**

*In the first sentence of the first paragraph, delete the following after "conventional":*

"or homogeneous modified"

*Add the following at the beginning of the second sentence:*

"Homogeneous and"

*In the second paragraph, replace 4314 with:*

"B4314"

*Add the following at the end of the second paragraph:*

"In the case of single seals the engineer may, at his discretion, permit the application of a diluted emulsion fog spray in instances where application rates are below the minimum allowable tolerances. In such instances no additional payment over and above the unit rate tendered for the accepted seal, plus or minus any variation from the nominal, will be made. In the case of sand seals or graded seals the engineer may accept, at his discretion, an application of binder sprayed above the allowable tolerance subject to the contractor, at his own cost, applying and rolling any additional sand/aggregate necessary as a result of such over application."

#### **B4314 TOLERANCES AND FINISH REQUIREMENTS**

- c) The rate of application

*Replace the first paragraph with the following:*

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

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

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

#### **TABLE B4314/1: PAYMENT REDUCTION FACTORS FOR CONDITIONALLY ACCEPTED BINDER APPLICATION RATES**

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

*Add the following at the end of the last paragraph:*

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

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

d) Conditional acceptance

Delete the entire sub-clause

**SECTION B4400: SINGLE SEALS****B4402 MATERIALS**

*Replace "table 4402/1" with:*

*"Table B4302/13"*

**B4403 CONSTRUCTION****f) Pre-coating of aggregate**

*Replace "4302(d)" with "B4302(d)"*

**B4404 MEASUREMENT AND PAYMENT**

*Amend the following payment item:*

<b>Item</b>	<b>Unit</b>
<b>B44.01 Single seals</b>	
(a) 14,0mm single seal (Grade 1 aggregate and S-R1 binder):	
(i) New crumb rubber technology (NCRT) ..... metre-squared (m <sup>2</sup> )	
<b>Item</b>	<b>Unit</b>
<b>B44.03 Aggregate variations (Grade 1)</b>	
(d) 14mm aggregate.....cubic-metre (m <sup>3</sup> )	
<b>Item</b>	<b>Unit</b>
<b>B44.04 Application of fog spray</b>	
(a) 30% spray-grade emulsion (CRS65 emulsion diluted with 50% water). .....litre (ℓ)	
<b>Item</b>	<b>Unit</b>
<b>B44.05 Pre-coating of aggregate (Bitucoat or similar approved)</b>	
(a) 14mm aggregate.....cubic-metre (m <sup>3</sup> )	

The unit of measurement for the pre-coating of aggregate shall be the cubic metre of aggregate so treated measured in haul vehicles or in stockpile.

The tendered rate shall include full compensation for furnishing the equipment and materials and pre-coating the aggregate as specified, including the handling, stockpiling and protection of the stockpiles against inclement weather.



## **SECTION B5700: ROAD MARKINGS**

### **B5701 SCOPE**

*Replace “South African Road Traffic Signs Manual” in the second paragraph with:*

“SADC Road Traffic Signs Manual”

Replace the words “ordinary road marking paint” with “solvent borne road marking *paint*”.

*Replace “BS 3262” with “EN 1436”.*

Replace “Hot melt plastic road marking” with “thermoplastic road marking”.

### **B5702 MATERIALS**

*Insert the following before sub clause (a) Paint:*

“The selection of the appropriate road marking paint and materials for permanent road markings to ensure conformance with the requirements of this specification rests with the contractor. Such paint and material shall have technical characteristics (brightness, luminance, skid resistance, durability) equal to or greater than road marking paint and materials specified in sub clauses 5702(a), (b) and B5702(c).

Where plastic road-marking material (hot-melt plastic (also known as thermoplastic) and two-component (also known as cold plastic)) is used, the contractor shall obtain an approved guarantee from the manufacturer that the paint complies with the specification. This shall be submitted to the Engineer on request.”

*Replace sub-sub clause B5702(a)(i) with the following:*

“(I) Road marking paint

Road marking paint shall be Type 1 as specified in SANS 731-1. Only paint, manufactured in a SANS approved and accredited facility shall be accepted. The no-pick-up time of road-marking paint shall comply with the Class 1 requirement in accordance with SANS 731-1.

The paint shall be delivered at the site in sealed containers marked in accordance with SANS 731-1.

The viscosity of the paint shall be such that it can be applied without being thinned down.”

*Replace sub-sub clause B5702(a)(iii) with the following:*

“(iii) Thermoplastic road marking material

Thermoplastic road marking material shall comply with the requirements of EN 1436, and EN 1423: 1998 for drop-on glass beads for road marking and anti-skid aggregates and mixtures thereof. Blending of thermoplastic road marking material and glass beads shall comply with EN 1424: 1998.

The binder shall be an elasticized synthetic resin and the material shall be reflectorized by mixing in 25% by mass Class A glass beads in accordance with EN 1424: 1998. An additional topping of glass beads shall be applied to the hot surface of the material for instant retro-reflectivity.

The white road marking material shall contain 6% by mass minimum titanium dioxide content and shall have a skid resistance of 45 S.R.T. – units or higher. SABS Method 1248: 1995 shall be used for determination of traffic wear index; indication of durability.

*The following minimum lumination values are required for the completed product:*

- 250 mcd/m<sup>2</sup>.lux & 120 mcd/m<sup>2</sup>.lux for white & yellow lines respectively, at 30 days after application.
- 200 mcd/m<sup>2</sup>.lux & 100 mcd/m<sup>2</sup>.lux for white & yellow lines respectively, at 6 months after application.

Determination of coefficient of retro-reflected luminance by means of portable retro-reflectometer shall be carried out using SANS 6261: 2008. Application of the permanent road marking will thus have to be performed within the first 6 months of the 12 month defects liability period to allow for the second measurement to fall within the contract dates. Should the application of the permanent road-marking fall outside the first half of the defects liability period for whatever reason, the settlement of the retention money will be delayed until the second measurement of luminance can be performed at the stipulated time and the required adjustment can be made to the tendered rate (if required).

Two-component cold plastic road marking material shall be used for symbols, arrows and letters (hand painted markings) unless otherwise instructed by the Engineer.”

*Add the following sub item:*

“c) Retro-reflective beads

Retro-reflective glass beads shall be applied to the wet paint, thermoplastic and cold plastic.

The beads shall comply with Class A beads in accordance with EN 1424: 1998, with the following requirements or as approved by the Engineer:

- colour : crystal clear
- roundness : > 80%
- size range of : 14 – 200 US Mesh (75 – 1400 Microns)
- refractive index : > 1.5
- specific gravity : ± 2.5

CUMULATIVE RETAINED MASS		
SIEVE	MINIMUM	MAXIMUM
1700	0	2
1400	0	10
1180	5	30
850	40	80
600	70	100
425	80	100
355	90	100
212	95	100
Pan	100	100

The beads shall be delivered to the site in sealed bags, marked with the name of the manufacturer, the batch number and an inspection seal of SANS, confirming that the beads form part of a lot tested by SANS and comply with the requirements of EN 1424: 1998. Alternatively, the Contractor shall at all times have a SANS certificate on the site, identifying the batches to which the inspection seals apply and certifying that they have been tested by SANS, and comply with the requirement of EN 1424: 1998."

#### **B5704 MECHANICAL EQUIPMENT FOR PAINTING**

*Add the following sentence at the end of the first paragraph:*

"The road-marking machine shall be fitted with a device to guide the operator to the centre of the line to be painted. This device shall be used at all times of operation."

#### **B5705 SURFACE PREPARATION**

*Add the following at the end of the second paragraph:*

"The onus is on the contractor to ensure that the surface on which the road markings are to be applied is sufficiently clean and dry to ensure that the quality of the road markings will not be adversely affected. The contractor is also responsible for protecting road studs from being painted over, and the subsequent cleaning thereof if such over-painting did occur."

#### **B5706 SETTING OUT THE ROAD MARKINGS**

*Insert the following before the first paragraph:*

"Where road markings are to be replaced after any construction activity, it is essential that all existing road marking be accurately surveyed and referenced before commencement of such construction activities which will obliterate the existing road markings. The position of barrier lines shall be re-assessed on site by the engineer before the contractor commences with the road marking."

#### **B5707 APPLYING THE PAINT**

*Insert the following before the first paragraph:*

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

Provision is also made under item B57.07 for de-establishment and re-establishment in the contract or defects notification period if such action is required by delays not attributable to the contractor and/or ordered by the Engineer.”

*Replace the sixth paragraph with the following:*

“Solvent borne road marking paint shall be applied at a nominal rate of 0,42l/m<sup>2</sup> or as directed by the Engineer. Thermoplastic road marking shall be applied at a nominal rate of 2,5 kg/m<sup>2</sup> to achieve a minimum thickness of 1,25mm to 1,5mm or as directed by the Engineer. The two-component road marking material shall be applied by hand by means of a trowel. The desired symbol or line shall be marked with a tape or a template on the road surface. Thereafter apply the required volume of material and spread uniformly over the entire area. When dry/set, remove the tape or template. A spreading rate of 4,5kg/m<sup>2</sup> is estimated to achieve a 2,0mm material thickness.

In order to ensure proper coverage on all types of surfaces the Engineer may order an increase in the above nominal application rates. Payment for these variations in application rates shall be made under item 57.04.

A daily log-sheet, provided by the Employer, shall be completed and signed by the Contractor and the Engineer’s representative, recording the quantities of paint and glass beads used on that day and shall be available for inspection at all times. The completed and signed log-sheet for the period covered by a payment certificate shall be attached to the payment certificate.”

*Replace the last paragraph with the following:*

“Solvent-based road marking as specified by the Engineer shall be carried out within 14 days of opening the road full width to traffic after the completion of the surfacing.

If in the in the opinion of the Engineer, conditions are unsafe, the centre-line shall be painted immediately after 2,0 km of continuous road has received a new asphalt layer, or 4,0 km of continuous road has received a new seal surfacing.”

#### **B5708 APPLYING THE RETRO-REFLECTIVE BEADS**

In the first paragraph, replace the nominal application rate of 0,8kg/litre with “400gm/m<sup>2</sup>”.

*Replace the second paragraph with the following:*

“The thermoplastic road marking material and two-component road marking material shall contain insitu glass beads of minimum content of 25% in order to obtain night visibility (reflectivity). The contractor shall immediately apply additional glass beads at 400g/m<sup>2</sup> to obtain immediate reflectivity. The beads shall be sprayed onto the road marking layer by means of a pressure sprayer. Where letter, symbol, traverse line and island road marking is undertaken by hand, the glass beads may be applied by hand if approved by the Engineer. Prior to any hand application work, the contractor shall first request approval from the Engineer.”

*Add the following:*

“Beads shall be applied in accordance with EN 1424.”

**B5710 TOLERANCES**

*Add the following paragraphs to sub clause (c) Alignment of markings:*

"When an unbroken line and a broken line are painted alongside each other, the beginning and the end of the unbroken line shall coincide with the beginning of one broken line and the end of another broken line. When existing lines are repainted, the new markings shall not deviate more than 100mm in the longitudinal direction nor 10 mm in the transverse direction from the existing marking.

The alignment of the road studs shall not deviate from the true alignment by more than 10mm and shall be positioned so that the reflective faces are within 5° of a right angle to the centre line of the road."

*Add the following sub clause:*

"e) Testing

(1) Plant

Before painting any permanent road markings, the Contractor shall satisfy himself and the Engineer, by painting test lines on a section of pavement other than the section required to be marked:

- (I) that the painting machine is in good working order and properly adjusted;
- (ii) that the operator is fully experienced; and
- (iii) that the machine sprays at the specified rate of paint application.

The Contractor shall bear the cost of all materials and workmanship required for the above plant tests.

In addition, the Contractor shall conduct random paint thickness tests and dip/spread tests as required by the Engineer."

**B5711 GENERAL**

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

" , bituminous emulsion, slurry"

*Add the following to the last paragraph:*

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

*Add the following clause:*

*"The Contractor shall provide temporary traffic control facilities in accordance with Section 1500 of the COLTO's standard specifications for road and bridge works to ensure traffic safety where work is being executed.*

*Property and/or road signs damaged by the Contractor, his personnel, his agents or sub-contractors shall be repaired or restored to their condition prior to the damage at his own cost."*

**B5712 FAULTY WORKMANSHIP OR MATERIAL**

*Add the following paragraphs to this item:*

"The Contractor shall rectify in an acceptable manner and at his own costs; all marking that do not comply with the specified requirements.

While work is in progress, tests shall be carried out on materials and/or the quality of work to ensure compliance with the specified requirements. The sampling methods are specified in SANS 731-1. The sampling methods described in TMH5 shall be followed where applicable."

### **B5713 PROTECTION**

*Add the following paragraph*

"Traffic cones shall not be smaller than 750mm in height and shall be placed on the road not further than 48m apart. Cones shall not be removed before the paint on the road has hardened to such an extent that it will not be damaged by traffic and the adhesive of the road studs has hardened to such an extent that the studs will not turn or become loose. All marks on the road caused by traffic driving over wet paint shall be removed by the Contractor at his own cost."

### **B5714 MEASUREMENT AND PAYMENT**

Amend the following pay item:

<b>Item</b>	<b>Unit</b>
<b>B57.06 Setting out and pre-marking the lines (excluding traffic island markings, lettering and symbols).....</b>	<b>kilometre (km)</b>

*Add the following:*

"Referencing of existing barrier lines and other road marking lines prior to milling and other operations, shall be included in the tendered rate for setting out and pre-marking."