



N3 TOLL CONCESSION (RF) PROPRIETARY LIMITED

(Hereinafter referred to as N3TC)

PROJECT DOCUMENT

STATUS: CONTRACT

VOLUME 3

CONTRACT NO: N3TC/RM-2022-601

**THE SPECIAL MAINTENANCE PROJECT ON
NATIONAL ROUTE 3, SECTION 5:
INKOSI LANGALIBALELE**

**DRAINAGE MAINTENANCE ON HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN**

Part of the operation and maintenance of the
N3 Toll Road under
Contract No: SAPR N0304102/1

CONTRACTOR'S NAME:

July 2022

LIST OF CONTRACT DOCUMENTS

The following documents form part of this contract:

- Volume 1: The FIDIC Conditions of Contract for Construction for building and engineering works designed by the employer (1999), issued by the International Federation of Consulting Engineers, which the tenderer shall purchase himself. (See note 1)
- Volume 2: The COLTO Standard Specifications for Road and Bridge Works 1998, issued by the Committee of Land Transport Officials which the tenderer shall purchase himself. (See Note 2)
- Volume 3: The Project Document, containing the tender notice, Conditions of Tender, Tender Data, Returnable Schedules, general and particular conditions of contract, project specifications, Pricing Schedule, Form of offer and Site Information is issued by the Employer (see note 3). The employer's Form of Acceptance and any correspondence from the selected tenderer, performance security, -demand guarantee and all addenda issued during the period of tender will also form part of this volume once a successful tenderer has been appointed.
- Volume 4: The drainage and traffic accommodation drawings.

Notes to Tenderer:

1. **Volume 1 is obtainable from CESA, P O Box 68482, Bryanston, 2021. Tel: (011) 463 2022 Fax: (011) 463 7383, email: general@cesa.co.za.**
2. **Volume 2 is obtainable from SAICE, Postnet Suite 81, Private Bag X65, Halfway House, 1685. Tel: (011) 8055947/8, e-mail: civilinfo@saice.org.za**
3. **Volume 3 is issued to the contractor in hard copy and contains the following files:**
 - **The full Project Document in PDF format**
 - **The information schedules in word format**
 - **The pricing data in excel format**

At contract stage, Volume 3 will be a bound signed paper copy containing the following documents:

 - **Information schedules relevant to the project**
 - **Agreements and Contract Data**
 - **Pricing Data**
 - **Scope of Work**
 - **Site Information**

Volume 4 is issued at tender stage.
4. **SUBMISSION OF TENDER – of the contract documents, only the following elements of Volume 3 need to be submitted.**
 - **Form of Offer**
 - **All returnable schedules**
 - **Completed pricing schedule**

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PART T1: TENDERING PROCEDURES

PART T1: TENDERING PROCEDURES

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**T1.1 INVITATION TO TENDER: DRAINAGE MAINTENANCE ON HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN**

1. N3 Toll Concession (RF) Proprietary Limited (N3TC) hereby invites competitive tenders from Selected Contractors who meet the CIDB grading requirement and who are registered on the N3TC supplier database in the Inkosi Langalibalele municipal district. Tendering contractors although invited still need to prove compliance with the Eligibility Criteria. The project is for the Drainage Maintenance on N3-5 on the N3 Toll Road in the vicinity of the Bushmans River, near Estcourt, in the Province of KwaZulu Natal.

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DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN

2. The time for completion is three (3) months.
3. Tenders will only be accepted from Tenderers meeting the Eligibility Criteria below. The attention of Tenderers is also drawn to the Tender Preference Points as contained in the Tender Rules.
4. The *Eligibility* Criteria are as follows:
 - a. The Applicant shall be registered with the CIDB and have a minimum grading of 2CE.
 - b. All members of the Tenderer Entity, Joint Venture, Consortium or sole Contractor shall be on the current N3TC supplier database in the Inkosi Langalibalele municipal district.
 - c. All members of the Tenderer Entity, Joint Venture, Consortium or sole Contractor shall have their places of business, located in Inkosi Langalibalele municipal district, defined as Location below and have been operationally active at the *Location* for at least one year prior to 1 June 2022.
 - d. Companies/ "Entities" must have a minimum Black People shareholding of 50.1%.
 - e. Applicants shall have proven previous experience of activities in concrete works relating to drainage maintenance on major roads projects.
 - f. Applicants shall have proven adequate financial resources.
 - g. Applicants shall be in good standing with the South African Revenue Services (SARS).
 - h. Applicants shall be in good standing with the Department of Employment and Labour (DoEL) for Compensation for Occupational Injuries and Diseases Act.

The onus remains with the Tenderer to provide sufficient documentary proof to prove compliance with the eligibility requirements.

5. Definitions
 - a. *Black People* Individuals who are citizens of the Republic of South Africa, who according to racial classification did not have the right to vote or had restricted voting rights immediately prior to the 1994 elections in South Africa.
 - b. *Location*.
The Domicilium Citandi of Applicants (Head office address) shall be in the **Inkosi Langalibalele municipal district of the province of KwaZulu Natal**. In the case of Joint Ventures and Consortia, this criteria for eligibility applies to all members of the Joint Venture or Consortium.
6. Tenderers will be required to provide all of the returnable schedules as required in this Tender Document.
7. The tender documents are only available and downloadable from the "TENDER" portal of the N3TC website, and it is the responsibility of the Tenderer to download the complete document for CONTRACT N3TC/RM-2022-601: DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4: CONSTRUCTION OF A CONCRETE LINED DRAIN. The document will be available on the website from 8 July 2022. Forms to be completed will be available on the website in MS Word format and the Pricing Schedule will be made available in MS Excel format.

N3TC website address: <http://www.n3tc.co.za/tenders/routine-road-maintenance/>

8. There will be no pre-tender meeting. All tender queries must be submitted to the N3TC tender email address and responses will be sent by return email. Written responses will be given to all queries received at least 5 days before the tender closing date.
9. Communication email address: n3tc2022hs4.tender@n3tc.co.za.
- 10. The Tender shall be submitted via email to n3tc2022hs4.tender@n3tc.co.za not later than 12:00 on Friday 22 July 2022, the Closing Time (F2.15.1). Late submissions will not be accepted. The onus remains with the Tenderer to ensure that their tender is received by the tender closing date and time.**
11. Tenderers are to please refer to the Conditions of Tender, and in particular:
 - a. Clause F.3.8 Test for responsiveness
 - b. Clause F.3.9.4 Tenders below economic viability threshold
 - c. Clause F.3.11 Evaluation of tender offers.
 - d. Clause F3.11.3 Method 2: Functionality, Price and Preference Points
 - i. Tenders failing to meet the minimum functionality requirements will be rejected.
 - ii. Price Scoring 80 points
 - iii. Preference Points 20 points - Equity of tenderer
12. N3TC reserves the right not to accept the tender with the highest scoring points or not to accept any tenders received.

T1.2 CONDITIONS OF TENDER

Notes to tenderer:

1. The legislated Standard Conditions of Tender (as published and amended from time to time by the Construction Industry Development Board) together with N3TC's special conditions of tender where the former is shown in standard format and N3TC's amendments (i.e. special conditions) shown in italics.
2. Tender Data and Tender Schedules are included separately after the tender conditions.

N3TC Conditions of Tender
(Based on CIDB Standard Conditions of Tender – 10 July 2018)

F.1 General

F.1.1 Actions

- F.1.1.1 The Employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.
- F.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.
- F.1.1.3 The Employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

- F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.
- F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.
- F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:**

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis.
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the Employer or his staff or agents, or any official in the employ of the State, in any tender process.
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, or the State, including collusive practices intended to establish prices at artificial levels.
- e) **organisation** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body.

- f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.
- g) **tenderer** means any commercial entity that responds to the Tender Notice by submitting an offer.
- h) **tender rigging** means collusive bidding by which 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 tender process. It is, therefore, an agreement between competitors not to compete.
- i) **these conditions of tender** mean the Standard Conditions of Tender (as published and amended from time to time by the Construction Industry Development Board) and the Employer's Special Conditions of Tender, the latter of which are demonstrated by appearing in italics.

F.1.4 Communication and Employer's agent

Each communication between the Employer and a tenderer shall be to or from the Employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The Employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the Employer's agent are stated in the tender data.

F.1.5 Cancellation and Re-invitation of Tenders

F.1.5.1 *The employer may, prior to the award of the tender, cancel a tender if:*

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure; or
- (c) no acceptable tenders are received.

F.1.5.2 The decision to cancel a tender must be notified to all tendering parties.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to make a fresh tender offer, based on the same evaluation criteria, with or

without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

- F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system (*Not applicable to this tender*)

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The Employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

- F.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The Employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

- F.1.6.3.2.2 The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

F.2 Tenderer's obligations

F.2.1 Eligibility

- F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with the employer.
- F.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender *whether the tender is submitted or not*. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting(s) at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data. *(No clarification meeting will be held for this contract)*

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least seven working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

- F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT)), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.
- F.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.
- F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.
- F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. *The use of masking fluid is prohibited.*

F.2.12 Alternative tender offers (N/A)

- F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the Employer.
- F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

- F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

- F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
- F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
- F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. For purposes of the tender offer the Employer will hold all authorised signatories liable on behalf of the tenderer. In the case of proposed joint ventures all members shall sign the tender offer. Signatories for tenderers proposing to contract as joint ventures shall also state which of the signatories is the lead partner.
- F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each packages shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address. (N/A).
- F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data. (N/A).
- F.2.13.8 Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

F.2.15 Closing time

- F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of e-mail shall not be accepted as proof of delivery.
- F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

- F.2.16.1 Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- F.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

F.2.17.1 Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

F.2.17.2 *Accept that the employer may, at its sole discretion, accept a less favourable tender from those already received or invite fresh tenders if a tenderer, at any time after the opening of his tender offer but prior to the signing of a contract based on his tender offer:- withdraws his tender; or*

(i) gives notice of his inability to execute the contract in terms of his tender; or

(ii) fails to sign a contract or furnish the performance security within the period fixed in the letter of award or any extended period fixed by the employer, or

(iii) fails to comply with a request made in terms of standard condition F2.18.1.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

F.2.18.2 *Accept the employer's right, at his sole discretion, to appoint suitably qualified persons to report on the financial resources, standing with the South African Revenue Services regarding all taxes, report on criminal and police records of Directors of the tendering companies, report on ITC records, management structure and ownership details of any tenderer and/or to verify the correctness of any information furnished to the employer in terms of condition F.2.17.1. Comply with the employer's request within the time stated in the request. Failure on the part of the tenderer to cooperate with such an inquiry shall entitle the employer to declare such tender offer as non-responsive.*

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer's undertakings

F.3.1 Respond to requests from the tenderer

- F.3.1.1 Unless otherwise stated in the Tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all selected tenderers.
- F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:
- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
 - b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
 - c) in the opinion of the employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until *three days* before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

- F.3.4.1 Tenders will be received by email and the email inbox will be closed at the advertised date and time of closing. and a record thereof retained.
- F.3.4.3 Make available the list of eligible tenders received to all interested persons upon request.

F.3.5 Two-envelope system (N/A)

- F.3.5.1 Where stated in the Tender Data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the Tender Data and announce the name of each tenderer whose technical proposal is opened.
- F.3.5.2 Evaluate the functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the Tender Data, and announce the score obtained for the technical proposals and the total price and any *preferences* claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

F.3.7.1 Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices, **or collusive tendering**.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the employer's opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F3.8.3 Refer to F.3.9.4 below.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - ii) the summation of the prices.

F.3.9.2 The employer must correct the arithmetical errors in the following manner:

- a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
- b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the *unit rate* shall govern and the *line item* shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total and the unit rate shall be corrected.

- c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall *be corrected*.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.3.9.3 Where the unit rates are imbalanced in the view of the employer/N3TC based on market related rates, the employer/ N3TC may request the tenderer to adjust certain rates keeping the total tender price unchanged.

Consider the rejection of a tender offer if the tenderer does not adjust the rates to submit balanced rates to the satisfaction of the employer/N3TC.

F.3.9.4 *Should a tender be received where the tendered rates are considered to be below a commercially viable threshold, (sub-economic), and should the re-balancing of the tender as described above result in a Contract Price that is considered below the threshold of economic viability, the tender shall be rejected?*

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers

F.3.11.1 General

The evaluation will be done by N3TC's nominated representatives.

Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the Tender Data.

No member of the adjudication panel shall have close family ties with any of the tenderers.

F.3.11.2 Method 1: Price and Preference

Method 1 will not be applicable to this contract and is not included in this document.

F.3.11.3 Method 2: Functionality, Price and Preference

In the case of a functionality, price and preference:

- 1) ***Check functionality of tenders, rejecting all tender offers that fail to meet the minimum requirements for functionality as stated in the tender data.***
- 2) ***No tender must be regarded as an acceptable tender if it fails to meet the minimum requirements for functionality.***
- 3) ***The tenders that meet the minimum requirements for functionality will be evaluated in terms of the points system described in paragraphs F3.11.5 to F3.11.7***

F.3.11.4 Decimal Places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.11.5 Scoring Price

Points awarded for price (Np) (Maximum 80 points)

$$Np = \frac{80 [1-(P-Pm)]}{Pm}$$

Np = Number of tender adjudication points awarded for price

P_m = Lowest acceptable tender price
 P = Tender price under consideration

F.3.11.6 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the Tender Data and reject all claims for preferences where tenderers are not eligible for such preferences.

Calculate the total number of tender evaluation points for preferences claimed in accordance with the following:

(i) *Points awarded for Equity of tenderer (Nep) (Maximum 20 points)*

$$\mathbf{Nep} = \mathbf{0.2 \times Ep}$$

Ep = the percentage equity ownership of previously disadvantaged person with the enterprise.

Nep = number of equity based points:

100% equity ownership will be awarded 20 points

Less than 50.1% equity ownership will be awarded no points, and will disqualify the tender offer.

F3.11.7 Total tender adjudication points

The total number of tender adjudication points awarded (N) is the sum of:

$$\mathbf{N} = \mathbf{Np + Nep}$$

The tender with the highest N value will be the most favourable tender.

F.3.12 Insurance Provided by the Employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and/or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

F.3.13 Acceptance of Tender Offer

Accept the tender offer, if in the opinion of the employer, it does not present any risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement;
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the Tender Data; and
- f) is able in the opinion of the employer, to perform the contract free of conflicts of interest.
- g) *Directors of the company have a clean criminal record.*
- h) *The company has a satisfactory status at the ITC*

F.3.14 Prepare Contract Documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete Adjudicator's Contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.16 Notice to Successful Tenderer

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 If any tenderer did not receive any notification within three months after closure then he must accept that his tender was unsuccessful.

T1.3 TENDER DATA

The Standard Conditions and the Employer's Special Conditions of Tender for Procurement make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard/special conditions of tender.

Each item of data given below is cross-referenced to the clause in the Standard and Special Conditions of Tender to which it mainly applies.

Clause Number	Tender Data
F.1.1	<p>The Employer is N3 Toll Concession (RF) Proprietary Limited. The Employer's domicilium citandi et executandi (permanent physical business address) is:</p> <p>1st Floor, Block D Southdowns Office Park 22 Karee Street Irene 0169</p> <p>The Employer's address for communication relating to this project is: Email only: n3tc2022hs4.tender@n3tc.co.za</p>
F.1.2	<p>The tender documents comprise the following:</p> <p>VOLUME 1: The FIDIC Conditions of Contract for Construction for building and engineering works designed by the employer (1999), issued by the International Federation of Consulting Engineers, which the tenderer shall purchase himself and is obtainable from CESA, P O Box 68482, Bryanston, 2021. Tel: (011) 463 2022 Fax: (011) 463 7383, email:general@cesa.co.za.</p> <p>VOLUME 2: The COLTO Standard Specifications for Road and Bridge Works 1998, issued by the Committee of Land Transport Officials which the tenderer shall purchase himself. Available from SAICE</p> <p>VOLUME 3: Project Document</p> <p><u>BOOK 1:</u></p> <p>TENDER Part T1: Tendering Procedures T1.1 Tender invitation T1.2 Conditions of Tender T1.3 Tender data</p> <p>Part T2: Returnable Documents T2.1 List of returnable documents T2.2 Returnable schedules</p> <p>CONTRACT Part C1: Agreements and contract data C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Other contract forms</p> <p>Part C2: Pricing data C2.1 Pricing instructions C2.2 Bill of Quantities</p> <p>Part C3: Scope of work</p> <p>Section C: Environmental Management Plan Section E: Requirements of the Occupational Health and Safety Act and Regulations</p> <p>Part C4: Site Information</p>

Clause Number	Tender Data
	VOLUME 4: Contract Drawings will be provided on the N3TC website for information, http://www.n3tc.co.za/tenders/routine-road-maintenance/ .
F.1.4	The Employer's agent is: N3TC CEO delegated to the N3TC Route Manager assisted by the N3TC Project Managers. Contact details will be made available to the successful Contractors
F.1.6.3	The Tender phase is a single stage tender for Selected Contractors. The pre-qualification phase is complete.
F.2.1.1	CIDB Registration: Refer to the pre-qualification document. Tenderers will be required to attach valid CIDB certificates with their tenders. Joint Ventures: Refer to the pre-qualification document.
F.2.7	No clarification meeting will be held for this contract
F.2.12	Alternative tender offers will not be considered.
F.2.13.4	Submit only one signed original tender offer in electronic format.
F.2.13.5	The Employer's email address for delivery of tender offers is n3tc2022hs4.tender@n3tc.co.za . Only email tenders will be accepted.
F2.13.6	A two envelope system is not applicable
F.2.15.1	The closing time for submission of tender offers is as per the T1.1 Tender Invitation .
F.2.16.1	The tender offer validity period is 90 calendar days.
F2.19	No inspections, analysis and tests are required from the contractor.
F.2.23	The tenderer is required to submit the certificates as listed in Form C1: Certificate of Tender Compliance.
F.3.4.1	Email tenders will not be made public.
F.3.9.3	Re-balancing of imbalanced rates will be applied by adjusting all rates, keeping the tender price the same. Refer to F3.9.4 below for sub-economic tendering.
F3.9.4	Should any tender be deemed to be sub-economic after re-balancing, the tender will be rejected.
F.3.11.1	N3TC is committed to transformation, employment equity and staff advancement, and to supporting black economic empowerment in particularly in the immediate vicinity of the contract. Only Contractors are on the current N3TC contractor database for iNkosi Langalibalele and whose businesses are in iNkosi Langalibalele and who have a minimum CIDB grading of 2CE are eligible to tender. <i>The procedure for the evaluation of responsive tenders is Method 2, Functionality, Price and Preference. Scoring will be undertaken as stated in F3.11.5, F3.11.6 and F3.11.7.</i> <i>Tenderers will have to meet the following functionality requirements:</i> <ul style="list-style-type: none"> a) Previous concrete drain experience. b) Sound financial standing, confirmed with a letter of good standing with a financial institution, and sufficient resources to meet the cash flow needs of the contract. <i>The tender offer will be rejected if the above functionality requirements are not met.</i> <i>The tenderer with the highest score of the aggregate of Price Score and Preference Score will be the most favourable tender. Should the score be equal, the Preference Score will be used to determine the most favourable tender.</i>

Clause Number	Tender Data
	<p><i>All members of the Tenderer Entity, Joint Venture or Consortium shall be on the N3TC supplier database in the Inkosi Langalibalele municipal district.</i></p> <p><i>All members of the Tenderer Entity, Joint Venture or Consortium shall have their places of business, located in Inkosi Langalibalele, defined as Location below.</i></p> <p><i>Location: The Domicilium Citandi of Applicants (Head office address) shall be in the Inkosi Langalibalele municipal district of the province of KwaZulu Natal. In the case of Joint Ventures and Consortia, this criteria for eligibility applies to all members of the Joint Venture or Consortium.</i></p>
F.3.12	Refer to the Special Conditions of Contract for requirements of Insurance
F.3.13	<p>Tender offers will only be accepted if: the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and the tenderer has not:</p> <ul style="list-style-type: none"> (i) abused the Employer's supply chain management system; and (ii) failed to perform on any previous contract and has been given a written notice to this effect. (iii) has a clear criminal and ITC record.

PART T2: RETURNABLE SCHEDULES

T.2.1 LIST OF RETURNABLE SCHEDULES

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The tenderer must complete the following returnable schedules:

Notes to tenderer

1. Returnable schedules have been separated into the following categories:
 - i) Forms, certificates and schedules for completion by the tenderer for use in the quantitative and qualitative evaluation of the tender (Forms A)
 - ii) A list of other returnable documents for completion by the tenderer and which will subsequently be incorporated into the contract (Section C1: Agreement and Contract data)
2. Failure to fully complete the relevant returnable documents shall render such a tender offer unresponsive.
3. Tenderers shall note that their signatures appended to each returnable form represents a declaration that they vouch for the accuracy and correctness of the information provided.
4. Notwithstanding any check or audit conducted by or on behalf of the Employer, the information provided in the returnable documents is accepted in good faith and as justification for entering into a contract with a tenderer. If subsequently any information is found to be incorrect, such discovery shall be taken as wilful misrepresentation by that tenderer to influence the contract. In such event the Employer has the discretionary right under particular condition 15.2 to terminate the contract.
5. Should a tenderer wish to offer a different period of completion than that required by the employer, it shall be submitted as an alternative tender.
6. If more than one alternative tender is submitted, each one shall be numbered and submitted on a separate copy of form C1.1.1 Form of Offer, completed and signed, and accompanied by the prescribed priced Pricing Schedule and supporting documents.
7. A retention money guarantee will be considered for acceptance in lieu of cash deductions provided that the tenderer submits his proposal as an alternative tender indicating the discount he proposes to give.
8. These forms must be completed in black ink and any alterations made prior to tender closure countersigned by an authorised signatory.

FORM A1: APPLICANT'S COMPANY DETAILS AND PREVIOUS EXPERIENCE

a. General:				
1. Name of Firm				
2. Postal address				
3. Physical address (Company Head Office Domicilium citandi)				
4. Telephone no				
5. E-mail address				
6. Contact person (full name)				
7. Income tax reference no				
8. VAT registration no				
9. Company registration no				
b. Type of business:				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Sole Trader	Close Corporation	Company	(Pty) Ltd.
c. List all shareholders, or owners of enterprises as follows:				
Name	ID Number / Citizenship	Black Y/N	Male / Female	% Owned
d. Relevant previous experience*				
Date	Project	Type of Work	Value	

* Only list Most Relevant experience. Full list of completed projects to be added to the business profile to be attached.

e. Total number of years the firm has been in business: _____

f. Number of permanent staff members employed by your business: _____

NOTE: A CERTIFIED COPY OF THE APPLICANT'S BUSINESS/COMPANY REGISTRATION FORM SHALL BE ATTACHED AS WELL AS A BUSINESS PROFILE LISTING ALL RELEVANT PREVIOUS EXPERIENCE AND PROJECTS.

SIGNED BY TENDERER:

FORM A2 LOCATION OF BUSINESS AND PROOF

The onus lies with the Applicant to ensure that adequate proof is provided that the Business is located at the address declared. Supporting documentation, e.g. Municipal Rates or other utility bill, is preferable.

Note: A certified copy of proof of business address shall be attached.

Business street address (being the place at which the applicant operates its business): _____

District municipality: _____

Province: _____

Distance from N3 Toll Road:Wembezi Interchange _____

Number of years at present address: _____

Additional justifications, if applicable: _____

SIGNED BY TENDERER:

FORM A3: CERTIFICATE OF AUTHORITY FOR SIGNATORY

Notes to tenderer:

1)The signatory for the tenderer shall confirm his/her authority thereto by attaching a duly signed and dated copy of the relevant resolution of the board of directors/partners. Alternatively this form may be used directly. It is deemed that whoever authorizes the signatory has the capacity to commit the tenderer to enter into contracts.

2) In the event that the tenderer is a joint venture, a certificate of authority for signatory is required from all members of the joint venture and the designated lead member shall be clearly identified as required by tender condition F.2.13.4.

By resolution of the board of directors passed at a meeting held on

Mr/Ms, whose signature appears below, has been duly authorised to sign all documents in connection with the tender for contract no.

CONTRACT: N3TC/RM-2022-601

DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN

and any contract which may arise there from on behalf of (block capitals)

SIGNED ON BEHALF OF THE COMPANY:

IN HIS/HER CAPACITY AS:

DATE:

SIGNATURE OF SIGNATORY:

WITNESS:

SIGNATURE

SIGNATURE

.....

NAME (PRINT)

NAME (PRINT)

FORM A4: CERTIFICATE OF TAX CLEARANCE

The tenderer shall attach to this page an original or certified copy of his Tax Clearance and VAT Registration certificate which shall be obtained by the tenderer from the relevant Revenue Service and which shall be valid on the closing time for submission of tenders.

In the event of a joint venture each member shall comply with the above requirement.

SIGNED ON BEHALF OF THE TENDERER:

FORM A5: TENDERER'S REGISTERED FINANCIAL SERVICE PROVIDER LETTER AND BANK DETAILS

Notes to tenderer:

1. **The tenderer shall attach to this form:**
 - a) **A letter (dated less than 3 months prior to the tender closing date) from a Registered Financial Service Provider (registered with the FSB) which declares how the entity conducts its account and confirms that the Tenderer has the financial means net of current commitments (independent of any contractual advance payment) available to meet the construction cash flow requirements estimated for the subject contract.**
2. **In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.**
3. **In the event that the Employer at its sole discretion is not satisfied with the financial capability of the tenderer as a result of whatsoever nature and reason, the Employer reserves the right to invoke the provisions under tender data F3.13.**

DATE
Bank Name
FSB Number
Bank Address

(Letter to be on the Financial Service Provider's letter head)

RE: ACCOUNT CONDUCT AND CASHFLOW CONFIRMATION

To Whom It May Concern:

We hereby confirm that **Tenderer Name** has been banking with **xxx** bank for a period of **xxx** years and the account has been conducted in a satisfactory manner. **Tenderer Name** has the financial means, net of current commitments available to meet the construction cash flow requirements to the value of **xxxxx** for contract RM-2022-601.

- i) Name of Account Holder:
- ii) Account Number:
- iii) Bank name:
- iv) Branch Number:
- v) Bank and branch contact details

Yours Sincerely,

Name _____

Signature _____



SIGNED ON BEHALF OF TENDERER:

FORM A6: CERTIFICATE OF INSURANCE COVER

Note to contractor: In the event of the contractor being a joint venture/consortium the details of the individual members must also be provided.

The contractor shall provide the following details of this insurance cover:

- i) Name of Contractor:
- ii) Period of Validity:.....
- iii) Value of Insurance:
 - Insurance for Works and Contractor's Equipment
Company:
Value:
 - Insurance for Contractor's Personnel
Company:
Value:
 - General public liability
Company:
Value:
 - SASRIA
Company:
Value:

FORM A7: CERTIFICATE OF COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 AND CONSTRUCTION REGULATIONS, 2003

Note to tenderer:

Discovery that the tenderer has failed to make proper disclosure may result in the Employer terminating a contract that flows from this tender on the ground that it has been rendered invalid by the tenderer's misrepresentation.

The tenderer shall attach to this Form evidence that he is registered and in good standing with a compensation insurer who is approved by Department of Labour in terms of section 80 of the Compensation for Injury and Disease Act (COID) (Act 130 of 1993).

The tenderer is required to disclose, by also attaching documentary evidence to this form, all inspections, investigations and their outcomes conducted by the Department of Employment and Labour into the conduct of the tenderer at any time during the 36 months preceding the date of this tender.

SIGNED ON BEHALF OF THE TENDERER:

FORM A8: CERTIFICATE OF REGISTRATION WITH CIDB

The tenderer shall provide the following details of his registration with the Construction Industry Development Board. In the case of a joint venture, each member of the joint venture shall complete a separate form attached to this one.

The tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.cidb.org.za). Tenderers whose CIDB registration expires within 21 days after close of tender should attach proof of their application for re-registration (refer to Tender Data Clause 4.1.1). In the case of a Joint Venture, a printed copy of the Active Contractor's Listing must be provided for each member of the Joint Venture.

Name of Contractor:.....

Contractor Grading Designation:

CIDB Contractor Registration Number:

Expiry Date:

FORM B1: TENDERER'S B-BBEE VERIFICATION CERTIFICATE

Notes to tenderer:

1. The tenderer shall attach to this form a valid B-BBEE verification certificate issued in accordance with:
 - the amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry.
 - in the event that the Measured Entity operates in more than one sector or sub-sector, the scorecard for the sector or sub-sector in which the majority of its core activities (measured in terms of Annual Revenue) are located will be acceptable.
2. The certificate shall:
 - have been issued by a verification agency accredited by the South African National Accreditation System (SANAS); or
 - be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission in the case of an Exempted Micro Enterprise (EME) with a total annual revenue of less than R3 million if issued in accordance with the amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry; and
 - be valid at the original advertised tender closing date; and
 - have a date of issue less than 12 (twelve) months prior to the tender closing date (see Tender Data 4.15).
3. In the event of an un-incorporated joint venture (JV), a project specific (SANRAL project number indicated) consolidated B-BBEE verification certificate in the name of the JV, shall be attached, as well as a valid B-BBEE verification certificate for each member of the JV on which the JV certificate was calculated.
4. The attached verification certificate and the associated assessment report shall comply with the requirements of Tender Data clause 5.11.8 and shall identify:
 - (a) The name and domicilium citandi et executandi of the tenderer.
 - (b) The registration and VAT number of the tenderer.
 - (c) The dates of granting of the B-BBEE score and the period of validity.
 - (d) The expiry date of the verification certificate.
 - (e) A unique identification number.
 - (f) The standard and/or normative document, including the issue and/or revision used to evaluate the tenderer.
 - (g) The name and/or mark/logo of the B-BBEE verification agency.
 - (h) The category (Generic, QSE, EME) in which the tenderer has been measured.
 - (i) The B-BBEE status level.
 - (j) The South African National Accreditation System (SANAS) logo on the verification certificate once verification agencies have been accredited.
 - (k) The B-BBEE procurement recognition level.
 - (l) The score achieved per B-BBEE element.
 - (m) The % black shareholding.
 - (n) The % black women shareholding.
 - (o) The % black persons with disabilities shareholding
 - (p) The % black youth shareholding
 - (q) The % black people living in rural or underdeveloped areas or townships shareholding
 - (r) The % black military veterans shareholding
 - (s) The value added status of the tenderer.
5. The Employer will not be responsible to acquire data that it needs for its own reporting systems and which may not form part of a verification agency's standard certificate format. The tenderer, at its own cost, must acquire any missing specified data listed in 4 above from its selected verification agency and have it recorded on the certificate. Alternatively, such missing data must be supplied separately, but certified as correct by the same verification agency and also attached to this form.

SIGNED BY TENDERER:

FORM C1: CERTIFICATE OF TENDER COMPLIANCE**Note to tenderer**

This form has been created as an aid to ensure a tenderer's compliance with the completion of the returnable forms and schedules and subsequent placement in the correct envelope.

FORM NO	FORM DESCRIPTION	TICK IF COMPLETED
A1	APPLICANT'S COMPANY DETAILS AND PREVIOUS EXPERIENCE	
A2	LOCATION OF BUSINESS AND PROOF	
A3	CERTIFICATE OF AUTHORITY FOR SIGNATORY	
A4	CERTIFICATE OF TAX COMPLIANCE	
A5	TENDERER'S REGISTERED FINANCIAL SERVICE PROVIDER LETTER AND BANK DETAILS	
A6	CERTIFICATE OF INSURANCE COVER	
A7	CERTIFICATE OF COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 AND CONSTRUCTION REGULATIONS	
A8	CERTIFICATE OF REGISTRATION WITH CIDB	
B1	TENDERER'S B-BBEE VERIFICATION CERTIFICATE	

PART C1: AGREEMENTS AND CONTRACT DATA

PART C1: AGREEMENTS AND CONTRACT DATA

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C1.1A FORMS OF OFFER AND ACCEPTANCE

C1.1.1 FORM OF OFFER

The N3 TOLL CONCESSION (RF) PROPRIETARY LIMITED
1st Floor, Block D,
Southdowns Office Park
22 Karee Street, Irene, Centurion, 0157

Sir,

CONTRACT: N3TC/RM-2022-601

DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN

1. I/we, by signing this part of the forms of offer and acceptance, confirm that we have examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules and am/are duly authorised to represent and commit the tenderer to the contractual obligations contained therein.
2. I/we further confirm that by submitting this offer the tenderer accepts the conditions of tender and offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of tender and the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES (INCLUSIVE OF VALUE ADDED TAX) IS

..... (in words)

(R..... in figures)

3. You may accept this offer by signing and returning to the tenderer one copy of the Form of acceptance before the end of the period of validity stated in the tender data, (or at the end of any agreed extension thereof), whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.
4. Notwithstanding anything contained in a covering letter to this tender, I/we declare this offer is submitted entirely without variations or deviations.

Yours faithfully

SIGNATURE: DATE:

.....

NAME (IN CAPITALS):

CAPACITY:

Date and minute reference of Board resolution if different from returnable schedule Form A3: Certificate of Authority for signature

NAME AND ADDRESS OF ORGANISATION:

.....

NAME AND SIGNATURE OF WITNESS:

SIGNATURE: DATE:

.....

NAME (IN CAPITALS):

C1.1.2 FORM OF ACCEPTANCE

To:

Dear Sir,

CONTRACT: N3TC/RM-2022-601

DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN

ACCEPTANCE OF OFFER

1. It is our pleasure to inform you that the N3 Toll Concession (Pty) Ltd (the Employer) accepts your (*select if applicable corrected/corrected alternative/alternative*) offer in the amount of R..... (i.e. including VAT but excluding CPA, and any contingent sum not in the priced schedule).
 2. The amount due may not be the accepted price but payment shall be made in accordance with the conditions of contract identified in the contract data.
 3. Acceptance shall form an agreement between us according to the terms and conditions contained in this form and in the contract that is comprised of:

Part C1: Agreements and Contract Data (including this form of acceptance),
Part C2: Pricing Data,
Part C3: Scope of the Work and
Part C4: Site Information,
Part C5: Annexures
together with issued drawings and other documents, or parts thereof, which may be incorporated by reference into the Parts listed above.
 4. Deviations and/or variations included in your offer as well as any changes to the terms of the offer agreed by us during the process of offer and acceptance shall not be valid unless contained in the appended schedule of deviations. (*If no deviation state "There are no deviations, variations or changes to the documents."*) Addenda issued during the tender period are deemed not to be deviations to the tender documents and schedules.
 5. Within 14 calendar days of the date of this form of acceptance (including the schedule of deviations if any) you shall deliver to the Employer:
 - Performance Security (per clause 4 of the FIDIC Conditions of Contract) a proforma of which is attached for your reference. The value of the guarantee shall be as per the Contract Data and there shall be no deviations from the wording of the proforma guarantee.
 - Proof of insurance in terms of the information provided in the contract data and clause 18 of the FIDIC Conditions of Contract. Proof of currency of insured cover shall be provided on a monthly basis until contract completion.
- Failure to fulfil any of these obligations shall constitute a repudiation of this agreement.
6. The effective date of the contract shall be the date of this form of acceptance unless you, within seven (7) calendar days of the effective date, notify the Employer in writing of any justification why you cannot accept the contents of this agreement.
 7. The commencement date of the contract shall be as mutually agreed, but shall not be later than.... (*usually 28 calendar days after the date of this form, or earlier if circumstances demand and as agreed between tenderer/employer*)
 8. Notwithstanding that a full, original-signed copy of the contract document containing all contract data and schedules (including that of accepted deviations) will be delivered to you, this form of acceptance constitutes the binding contract between us.

9. The Employer will act as the Employer's Agent to fulfil the functions of the Engineer in the administration of this contract. Please contactatto make arrangements for the signing of the contract documents and hand-over of the site.

SIGNATURE: DATE:

.....

NAME (IN CAPITALS):

CAPACITY:

EMPLOYER'S NAME AND ADDRESS:

AUTHORITY TO ACT:

C1.1.3 APPENDIX TO FORM OF ACCEPTANCE

Schedule of deviations

The deviations listed below constitute agreed variations/amendments to the tender data and schedules negotiated between the tenderer and employer based on information provided in Form A4: Schedule of Variations or deviations by tenderer. Addenda issued during the tender period are deemed not to be variations to the tender.

1.

.....

2

.....

3

.....

4

etc

.....

C1.2 CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

Note to Tenderer

- 1. The Conditions of Contract for Construction (1999 edition) prepared by the International Federation of Consulting Engineers (FIDIC), as amended, shall apply to this contract. The amendments are those issued by FIDIC and reproduced hereafter, together with additional amendments (particular conditions of contract) as prescribed by the N3 Toll Concession (Pty) Ltd.**

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PART A: GENERAL CONDITIONS - FIDIC AMENDMENTS

Up to 23 July 2013 no amendments have been issued by FIDIC.

PART B: PARTICULAR CONDITIONS OF CONTRACT

Note to Tenderer:

The following amendments are the N3 Toll Concession's standard particular conditions to the general conditions and shall apply to this contract

The following additional amendments to the FIDIC Conditions of Contract 1999 apply to this contract:

CONDITIONS OF CONTRACT

PARTICULAR CONDITIONS AMENDING THE GENERAL CONDITIONS OF FIDIC

SUBJECT INDEX

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PARTICULAR CONDITIONS AMENDING THE GENERAL CONDITIONS OF FIDIC

1.1 Definitions

1.1.1 The Contract

Replace 1.1.1.1 with:

“ **Contract**” means the Form of Offer and Acceptance, Contract Data, these Conditions, the Specifications, the Drawings, the Schedules, and the further documents (if any), which are listed in the Form of Offer and Acceptance, and further includes drawings and documents or parts thereof, which any of the aforesaid documents incorporate by reference.”

Replace 1.1.1.3 with:

“ **Letter of Acceptance**” means the Form of Acceptance as contained in part C1.1.2 of the contract documents.”

Replace 1.1.1.4 with:

“ **Letter of Tender**” means the Form of Offer as contained in part C1.1.1 of the contract document.”

Replace 1.1.1.5 with:

“ **Specification**” means that document entitled Scope of Work, as included in the Contract, and any additions and modifications to the Scope of Work in accordance with the Contract. Such document specifies the Works.”

Replace 1.1.1.7 with:

“ **Schedules**” means the document(s) completed by the Contractor and submitted with his tender offer, as included in the Contract. Such document(s) may include the Bill of Quantities, data lists and schedules of rates and/or prices.”

Replace 1.1.1.8 with:

“ **Tender**” means that section of the Form of Offer and Acceptance called ‘Offer’ and all other documents which the Contractor submitted as Returnable Documents, as included in the Contract.”

Replace 1.1.1.9 with:

“ **Contract Data**” means the completed section entitled C1.2.2 Contract Data – Information provided by the Employer included in this Contract Data. Any reference to “Appendix to Tender” shall also mean “Contract Data” and shall apply mutatis mutandis.”

1.1.1.10 Add the following:

“**Bill of Quantities** shall also mean the Pricing Schedule as contained in section C2.2 of the contract document.”

Add the following:

“1.1.1.11 **Concession Contract**” – means the Concession Contract, dated 27 May 1999, entered into between SANRAL and the Employer, including the annexures and amendments thereto.”

“1.1.1.12 **Independent Engineer’ Agreement**” – means the contract entered into by SANRAL, the Employer and the Independent Engineer for purposes of the Concession Contract, substantially in the form set out in Annexure 19 including amendments thereto.”

1.1.2 Parties and Persons

Replace 1.1.2.6 with:

“**Employers Personnel**” means the Engineer appointed by the Employer, and any other personnel notified to the Contractor by the Employer or the Engineer as Employer’s Personnel.”

Add the following:

1.1.2.11 “**BE**” means Black Enterprise as defined in part C3 Scope of Work.

1.1.2.12 “**SMME**” means Small, Medium and Micro Enterprise as defined in C3 Scope of Work.”

1.1.2.13 “**BP**” means Black People as defined in part C3 Scope of Work.”

1.1.2.14 “**Independent Engineer**” means the consulting engineer(s) or expert(s) appointed by SANRAL and the Employer pursuant to clause 6.1 of the Concession Contract or such other successor or consulting engineer(s) or experts as may be appointed from time to time by SANRAL and the Concessionaire and whose duties are set forth in the Independent Engineer’s Agreement, the Concession Contract and these general conditions.”

1.1.2.15 “**Intercreditor Agent**” means Nedcor Investment 102 Limited (previously known as Nedcor Investment Bank Limited).”

1.1.2.16 “**SANRAL**” means the South African National Roads Agency SOC Limited, established by Section 2 of the Act, or its legal successors and/or assigns.”

1.1.2.17 “**Concessionaire**” means the N3 Toll Concession (RF) (Pty) Ltd.”

Delete the definition of “DAB” in its entirety.

1.1.3 Dates, Tests, Periods and Completion

Replace 1.1.3.9 with:

“A “**day**” means a calendar day, except for any extension of time that is granted under Sub-Clause 8.4, [Extension of Time for Completion], in which case a day means a working day. A “**Year**” means 365 calendar days.”

1.1.6 Other Definitions

1.1.6.5 “Laws”

In the 1st line, replace “(or state)” with “(or other spheres of government)” and in the 2nd line, after “other laws”, insert “including the South African Common Law”.

Add the following:

1.1.6.10 “**Supplementary Agreement**” means an agreement between the Employer and the Contractor for executing work, supplemental to the original Contract, which was not contemplated in the original Contract and is also not required for the proper completion of the original Contract.

1.1.6.11 “**Act**” means the South African National Roads Agency SOC Limited National Roads Act, 7 of 1998.”

1.2 Interpretation

Replace the contents of (d) with:

“The expression “written”, “in writing”, “notify”, “the giving of notice”, “giving consent”, “as instructed” or “at the request of” means that communication, either hand-written or printed by whatever means, including transmission by telefax or e-mail, and resulting in a permanent record. However, such notice, instruction, consent or request is not deemed to have been delivered by virtue of its appearance in the minutes of meetings.”

1.5 Priority of Documents

Replace sub-paragraphs items (a) through (h) with:

(a) the Forms of Offer and Acceptance
(b) the Contract Data within the Contract data
(c) the Particular Conditions of Contract
(d) the General Conditions
(e) the Scope of Works,
(f) the project Drawings,
(g) the standard Specifications,
(h) the standard Drawings, and
(i) the Schedules and any other documents forming part of the Contract.”

1.6 Contract Agreement

Replace the 1st two sentences with the following:

“The Parties shall enter into a Contract Agreement when the Employer issues the Form of Acceptance (see Particular Condition 1.1.1.3). The Contract Agreement shall be in the form prescribed in the tender documents.”

1.7 Assignment

Change the title of this sub-clause to read “Assignment/Cession” and replace its contents with the following:

“Neither Party shall, without the written consent of the other, assign the contract or any part thereof or any obligation under the Contract or cede any right or benefit thereunder.”

1.8 Care and Supply of Documents

Delete the first paragraph and replace with:

“The Employers specification and drawings shall be in the custody and care of the Employer. The design in compliance with the Employers specification shall be the responsibility of the Contractor and shall form part of the Contractors Documents”.

In the 2nd paragraph, 3rd line, change “six” to “two”.

1.9 Delayed Drawings or Instructions

In paragraph 1, delete the words “drawings or instruction” and replace with the words “instructions for which the Contract Engineer is not responsible”

In paragraph 2, delete part (b) “payment for such Cost ...”

Add the following paragraph after the 4th paragraph:

“The Contractor shall have no entitlement of claim of any nature against the Employer resulting from any delay resulting from the late delivery of designs, drawings or instructions for which the Contract Engineer is responsible.”

1.10 Employer's Use of Contractor's Documents

Amend sub-clause 1.10 by inserting a new clause after the third paragraph, to read as follows:

"Notwithstanding that set out herein, the Contractor acknowledges that it has had sight of and is aware of the Employer's obligations to SANRAL in respect of copyright and confidentiality (as recorded in the Concession Contract) and undertakes that it shall (and shall procure that Sub-Contractors shall) comply with the provisions thereof in order to ensure that the Employer does not breach its copyright and confidentiality obligations to SANRAL."

Add the following new sub-clause "1.15 Applicability of Concession Contract", after sub-clause 1.14 to read as follows:

1.15 Applicability of Concession Contract

The Employer shall make available to the Contractor and the Engineer, a copy of those sections of the Concession Contract which are relevant to this Contract. The Contractor and the Engineer agree and accept that in performing their obligations in terms of this Contract, they shall do all such things as may be reasonably be necessary so as to enable the Employer to discharge its obligations to SANRAL and the Independent Engineer in respect of this Contract and the Works performed thereunder in accordance with the terms of the Concession Contract.

As further clarification to the above paragraph, the Contractor shall acknowledge that, in undertaking the Works in terms of the Contract, the Employer, may have certain other ongoing obligations to SANRAL in terms of the Concession Contract and the Contractor agrees to provide the Employer with reasonable assistance so as to enable the Employer to discharge such ongoing obligations to SANRAL and/or the Independent Engineer. This assistance relates, inter alia, to the Contractor providing reasonable assistance to the Employer with regard to:

- (a) The Employer's copyright and confidentiality obligations under the Concession Contract, insofar as this Contract may affect those obligations;
- (b) Granting the Independent Engineer general access to the Site and allowing the Independent Engineer to comply with its obligations in terms of the Concession Contract. It is however recorded that the specific rights and duties of the Independent Engineer insofar as they relate to the Permanent Works, under the Contract, are regulated by virtue of the Contract itself, which Contract SANRAL has approved;
- (c) Allowing SANRAL access to the Site and to the documents which form the subject matter of this Contract;
- (d) SANRAL's rights regarding Variations and Way-Leaves. Any cost implication in this regard, insofar as the Permanent Works are concerned, are however regulated by virtue of the provisions of the Contract;

Accordingly, the obligations imposed in terms of sub-clause 1.15 –

- (a) Will have no cost implication for the Contractor, insofar as it relates to the Contractor undertaking the Permanent Works. Any Variations to the Permanent Works which may arise by virtue of SANRAL's right under the Concession Contract will be undertaken on the basis contemplated in the Contract itself;
- (b) Relate to the Contractor agreeing, as part of its obligations under the Contract, to provide the Employer with such other reasonable assistance which the Employer may require so as to enable the Employer to comply with its obligations to SANRAL under the Concession Contract."

2.3 Employer's Personnel

In the 1st sentence delete "and the Employer's other contractors."

3.1 Engineer's Duties and Authority

After the 3rd paragraph insert the following:

"In addition to the actions stipulated in the General Conditions whereby the Engineer shall first obtain the approval of the Employer, the Employer's approval shall also be obtained before taking any action under Sub-Clauses 8.4,11.9,13.3 and 20.1 as amended in these Particular Conditions."

3.5 Determinations

Amend sub-clause 3.5 by inserting the following words as the beginning of sub-clause 3.5:

"subject to 3.6"

Add the following new sub-clauses 3.6, 3.7 and 3.8, after sub-clause 3.5 to read as follows:

"3.6 Independent Engineer's Role

By virtue of the obligations imposed on the Employer under the Concession Contract and the Independent Engineers Agreement, the Contractor hereby agrees without in any way derogating from the generality of that recorded in Clause 1.15 above:

(a) to provide the Independent Engineer with the Contractor's Documents and all such other documentation or information as may be in their possession or under their control and which relates to the Works and/or this Contract, so as to enable the Independent Engineer to perform its obligations under this Contract, the Concession Contract and the Independent Engineers Agreement;

(b) that the Engineer shall, whenever these Conditions provide that the Engineer shall proceed to agree or determine any matter, whether in accordance with Sub Clause 3.5 or otherwise, do so in consultation with the Independent Engineer and shall thereafter and only insofar as such agreement or determination relates to a matter, in terms of the Concession Contract (as read with the Independent Engineer's Agreement), which is specifically to be agreed upon or determined by the Independent Engineer (and which matters, for the avoidance of doubt, are recorded in 3.7 below), then such agreement or determination on the part of the Engineer, shall only be valid and enforceable under this Contract to the extent that it has been certified as correct by the Independent Engineer. To the extent that there is any disagreement between the Engineer and the Independent Engineer (with regard to those matters recorded in 3.7 below), then the determination of the Independent Engineer shall prevail and the Independent Engineer shall:

(i) in such circumstances (and in the place of the Engineer) issue a written determination to the Employer, the Contractor and the Engineer and which determination shall be binding on these parties;

(ii) provide the Engineer with reasons for its determination, insofar as such determination differs from the determination that the Engineer would have provided."

"3.7 Independent Engineer's Determination

For purposes of Sub Clause 3.6(b) above, it is recorded that the matters, under the Concession Contract, which specifically require the agreement and determination of the Independent Engineer are:

(a) any amendment to the Detailed Design (as defined in the Concession Contract) and as previously approved by the Independent Engineer;

- (d) variations to the Detailed Design (not contemplated in the Detailed Design itself) and which have a time and/or cost implication of more than 5% of the contract value;
- (e) SANRAL variations as contemplated in clause 8.1.2 of the Concession Contract;
- (f) any other variation to the Works which has a time and/or cost implication of more than 5% of the contract value;
- (g) any variation which may result in a relaxation of and/or non-compliance with SANRAL Requirements (as defined in the Concession Contract); and
- (h) any suspension of the Works required by SANRAL.

Save for that set forth above, all other determinations in terms of this Contract shall be made by the Engineer in accordance with the provisions of this Contract.

Any determination made by the Engineer, whether in accordance with the provisions of Sub-Clauses 3.5 and/or 3.6 or otherwise, shall at the written request of either the Employer and/or the Contractor be subject to review by the Independent Engineer on the basis that:

- (a) such determination shall be referred, in writing, by the Employer and/or Contractor to the Independent Engineer within seven days of a determination having been issued by the Engineer, and failing such referral the Engineer's determination shall become final;
- (b) the Independent Engineer shall, within twenty-one days of receipt of the referral contemplated in Sub-Clause (a) above, either confirm the Engineer's determination, alternatively issue its own revised determination in which case the determination of the Independent Engineer shall prevail and be binding on the Parties and the Independent Engineer shall, in such circumstances, provide the Engineer with reasons for its determination, insofar as such determination differs from the determination issued by the Engineer."

The Independent Engineer shall ensure that any Taking Over Certificate (see Clause 10.5 below) or Performance Certificate (see Clause 11.9 below) is correctly issued by the Engineer in terms of the Concession Contract."

“3.8 Independent Engineer and the Contractor

The Independent Engineer's access to the Contractor and the Contractor's access to the Independent Engineer shall take place via the Engineer."

4.1 Contractor's General Obligations

Add the following sentence to the 1st paragraph:

"With regard to the Contractor's proposals submitted under the item of the Scope of Works entitled "Requirements of Government's programme for Broad-Based Black Economic Empowerment", if the Contractor fails to provide the employment or training to the extent proposed, the Employer may impose penalties as set out in the above-mentioned Scope of Works."

Add the following paragraph:

"The Contractor shall obtain approval from the Department of the Environment for the use of recovered asphalt in the works, as defined in the Waste Management Act (Act 59 of 2008) as amended, and shall assume responsibility for the Environmental Management Plan (EMP) in respect of the site(s) and shall ensure that the site(s) is/are rehabilitated at the conclusion of the contract."

4.4 Subcontractors

Change the title to read “Subcontractors and Suppliers”

In the 1st line of the 2nd paragraph, after the word “Subcontractor” replace the expression “his agents or employees” with “suppliers, their agents or employees”.

Add the following to sub-paragraphs:

- (e) If the Contractor is required to employ one or more Subcontractors under his targeted enterprise development, then the subcontract agreement between the Contractor and the Subcontractor shall be the standard FIDIC subcontract agreement (version 2011) and the provisions of Sub-Clause 5.4 (Evidence of Payment) shall apply as if such Subcontractor is a nominated Subcontractor.
- (f) Each subcontract agreement shall include the provisions:
 - (i) The Contractor undertakes to pay the Subcontractor the full value as certified by the Engineer as being due in each Interim Payment Certificate, without any deduction for plant, equipment, materials or fuel supplied by the Contractor. The Contractor further undertakes to make payment within 21 days of presentation by the Engineer of the Contractor’s own Interim Payment Certificate to the Employer for payment, or by the 25th of the month following that in which the Subcontractor completed the work, whichever date is earlier.
 - (ii) The Subcontractor’s retention money shall be released when a Subcontractor’s work does not show any defect within 12 (twelve) months after the completion of the subcontract. However, the Subcontractor’s retention money may be withheld but only if the Performance Certificate is unable to be issued because of defective workmanship attributable to the Subcontractor.”

4.7 Setting Out

Amend the second line of the second paragraph to read;

“.....reference, provided that the Contractor shall provide proof of their inaccuracy before they are used.”

4.8 Safety Procedures

Add the following sub-paragraph:

“(f) enter into and execute an agreement as provided for under Section 37 (2) of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) and shall comply with all other requirements of Act No 85 of 1993 and Construction Regulations, 2003. The agreement in the relevant form shall be prepared at the expense of the Employer.”

4.10 Site Data

In the 1st paragraph, 1st sentence, replace “prior to the Base Date” with “either as part of or by reference in the Tender Documents or, otherwise, not later than 7 days before the latest date for submission of the Tender Documents.”, and delete the 2nd sentence.

4.13 Rights of Way and Facilities

Add the following paragraph:

“The Contractor shall abide by the procedures for the provision of deviation, haul and construction roads, and the requirements for the construction, maintenance and final reinstatement of such roads, all as set out in the standard Specifications.”

4.17 Contractor’s Equipment

Add the following paragraph:

“The Contractor shall notify the Engineer, in writing, of the names and addresses of the owners of all major items of equipment not owned by the Contractor.”

4.18 Protection of the Environment

In the 1st paragraph, 1st sentence add “and shall ensure compliance with all the environmental requirements indicated in part C3 Scope of Work.”

Add the following paragraph:

“The Contractor shall indemnify the Employer against any liability arising from or in relation to any of the above matters.”

4.19 Electricity, Water and Gas

In the 1st paragraph, 1st line, delete “except as stated below”, and delete the 2nd and 3rd paragraphs.

4.20 Employer’s Equipment and Free-Issue Material

Delete “and Free-Issue Material” from the title of the sub-clause and delete the 3rd and 4th paragraphs.

4.21 Progress Reports

In the 1st paragraph, 2nd line, delete “in six copies”

4.24 Fossils

In the 1st paragraph, 1st sentence after “fossils” insert “and graves” and in the 2nd sentence, add “and shall indemnify the Employer against any liability arising from such loss or damage.”

5.1 Definition of “Nominated Subcontractor”

Add the following paragraph to sub-clause 5.1:

“In this contract the contractor shall enter into a Subcontract with the nominated subcontractor on the terms and conditions stipulated by the Employer and set out in C1.2.2 to this document.”

6.5 Working Hours

Replace the 1st sentence with the following:

“No work shall be carried out on Site on Sundays or on any special non-working day stated in the Contract Data or outside normal working hours (as defined in Part C3: Scope of Works: Clause B1502(n), unless:”

6.7 Health and Safety

Replace the 1st paragraph with the following:

“The Contractor shall provide and maintain on the Site adequate and suitable sanitary and first aid services (including the provision at all times of a person qualified to render medical first aid) and a supply of potable water for the Contractor’s, the Employer’s and the Engineer’s personnel engaged on the Contract and, if necessary, similar facilities elsewhere for such personnel off the Site.”

Add the following new sub-clause:

“6.12 Indemnity by Contractor

The Contractor shall indemnify the Employer against and from all damages, losses and expenses (including legal fees and expenses) resulting from:

- (a) the loss of output and delay caused by the slowing down or partial or total stoppage of work caused by”
 - i. all or any of the Contractor’s workforce as a result of a dispute between all or any of the Contractor’s workforce and the Contractor; or
 - ii. all or any of the Contractor’s suppliers difficulty or impossibility to deliver goods or materials needed to perform the Works;
- (b) any unlawful, riotous or disorderly conduct by or amongst the Contractor’s personnel.”

7.4 Testing

Delete all paragraphs after the 4th paragraph.

8.1 Commencement of Work

Delete the first paragraph and replace with:

“The Engineer shall give the Contractor not less than 7 days’ notice of the Commencement Date. The Commencement Date shall be the latter of 28 days after the Contractor receives the Form of Acceptance or seven days after the date on which the Construction Works Permit (CWP) is issued by the Department of Labour. The Contractor shall have no recourse against the Employer or entitlement to payment of any compensation by the Employer for delays by the Department of Labour in issuing the CWP.”

In the 2nd line of the 2nd paragraph, after the words “Commencement Date”, insert “but within the period stated in the Contract Data.”

Add the following after the 2nd paragraph. Failure to commence with the works within the period stated in the Contract Data will result in a penalty being deducted from monies owed to the Contractor as stated in the Contract Data.

8.3 Programme

Replace the 1st sentence of the 1st paragraph with “The Contractor shall submit a detailed programme to the Engineer within 14 days of the Commencement Date.”

Add to the items to be included in the programme the following sub-paragraph:

- “(e) The Contractor’s cash flow forecast.
- (f) Documented details of the contractor’s environmental mitigation measures and health and safety plans in respect of all construction activities.”

In the 2nd paragraph replace “21” with “14”.

8.4 Extension of Time for Completion

Replace the word “Engineer” with “Employer” in the last sentence of the last paragraph.

8.7 Delay Damages

Change the marginal heading of this clause to read “Delay Damages and Other Non-compliance Charges” and insert the following as a first paragraph:

“Delay damages and other payments to the Employer for late delivery, failure to achieve intra-programme due dates or non-compliance events shall apply as follows:”

Keep the existing two paragraphs unchanged as subclause (a) and add the following subclause relating to other non-compliance charges:

“(b) If the Contractor fails to achieve programmed completion dates that result in extended duration of accommodation of traffic closures, or fails to adhere to specified controls and targets, penalties shall be levied by deductions from relevant interim Payment Certificates in terms of subclause (f) of clause 14.3 [Application for Interim Payment Certificates] at the rates stated in the Contract Data.”

Add the following paragraph:

“If it is stipulated in the project specification or the Contract Data that certain parts of the work must be completed within a specified period and the Contractor fails to complete this part or parts of the work by the due date, a separate penalty as defined in the Appendix to Tender shall apply for each day the actual completion date for these specified items surpasses the due date”

“9.5 Tests after Completion and Failure to pass Tests after Completion

Tests after Completion shall be performed according to the Specifications. The procedure in the event of Failure to pass Tests after Completion is detailed in the Specifications. Failure of the Contractor to remedy defects according to the requirements of the Specification within a reasonable period shall result a breach of Contract and result in the Employer recovering reasonable costs by making demand on the Performance Security.”

10.2 Taking Over of Parts of the Works

Delete the 2nd paragraph.

Between the 3rd and 4th paragraphs insert the following paragraph:

“The Employer may make use of any part of the Permanent Works prior to the issue of a Taking Over-Certificate.”

Delete the 5th paragraph.

Add the following new sub-clause 10.5 Independent Engineer, after sub-clause 10.4 to read as follows:

“10.5 Independent Engineer

The Engineer shall, in complying with its obligations in this Clause 10, do so in consultation with the Independent Engineer. The Independent Engineer shall ensure that the Taking Over Certificate is correctly issued by the Engineer in terms of the Concession Contract. To the extent that there is any disagreement between the Engineer and the Independent Engineer, then the determination of the Independent Engineer shall prevail and the Independent Engineer shall:

(a) in such circumstances (and in the place of the Engineer) issue a Taking Over Certificate to the Employer, the Contractor and the Engineer, and which Taking Over Certificate shall be binding on these parties;

(b) provide the Engineer with reasons for its determination, with regard to the Taking Over Certificate, insofar as this differs from the terms of the Taking Over Certificate which the Engineer would have provided."

11.9 Performance Certificate

Add the following sentence:

"The performance certificate shall be issued by the Engineer on mutatis mutandis the same basis contemplated in sub-clause 10.5 above."

Delete the last sentence of the 2nd paragraph.

11.11 Clearance of Site

Replace the 1st paragraph with the following:

"With the exception of Plant, Materials and Contractor's Equipment required to complete any outstanding work or to remedy defects or damage as notified by, or on behalf of, the Employer and which Plant, Materials and Contractor's Equipment have been agreed by the Engineer and the Contractor, the Contractor shall, upon receipt of the Taking-Over Certificate, remove all Contractor's Equipment and surplus material, wreckage, rubbish and Temporary Works, from the Site unless otherwise instructed by the Engineer."

In the 2nd paragraph, replace "after the Employer receives a copy of the Performance Certificate" with "after the issue of the Taking-Over Certificate."

12.3 Evaluation

Replace the second sentence of paragraph two with the following:

"However a new rate or price shall be appropriate for an item of work only if notice has been given and if:..."

Delete the conditions of sub-sub-clause (a) and replace with:

"as this is a maintenance and rehabilitation Contract, a new rate or price shall not be appropriate should a measured quantity differ in any way from the Bill of Quantities or other Schedule and that may result in any increase or decrease in the Contract Price."

Replace the word 'Contract' with 'Contract Data'.

13.3 Variation Procedure

Delete the first paragraph and replace with the following new paragraph:

"Variations may be initiated by the Employer (with a copy to the Engineer) at any time prior to the issuing of a Taking Over Certificate for the Works, either by instruction or by request to the Contractor to submit a proposal. The Engineer shall be required to implement the variation in accordance with 13.3."

Replace the 3rd paragraph with the following:

"Each instruction to execute a Variation, unless the Variation is to be executed on a Daywork basis, shall be a written instruction presented in the form of a Variation order. The Variation order shall be presented to the Employer, who shall signify his approval before the order is issued to the Contractor, who shall acknowledge his

acceptance by signing the order. The Contractor shall not accept a Variation order that is not approved and signed by the Employer.”

13.5 Provisional Sums

In the 1st line of sub-paragraph (b) after “services” insert “and including items for which a prime cost sum has been provided in the Bill of Quantities.”

13.6 Daywork

Replace the 2nd and 3rd sentences in the 1st paragraph with “The following procedure shall apply.”

Add the following as the 5th paragraph of this sub-clause:

“The work shall be valued in accordance with the Daywork Schedule included in the Contract or, in the absence of a Daywork Schedule or for items not included in the Daywork Schedule the Contractor shall be paid the aggregate of:

- (i) the gross remuneration of the workmen for the time they are actually engaged on the work concerned;
- (ii) the net cost of Materials actually used;
- (iii) an amount in respect of Contractor’s Equipment which shall be charged on a time basis at the rates stated in the Tender, failing which at rates, to be agreed between the Contractor and the Engineer or, failing agreement, to be determined by the Engineer on the basis of ruling equipment hire rates; and
- (iv) the percentage allowances stated in the Contract Data, which allowances shall be held to cover all charges for the Contractor’s and/or Subcontractor’s profits, timekeeping, clerical work, insurance, establishment, superintendence and the use of hand tools.”

13.8 Adjustments for Changes in Costs

Replace this sub-clause with the following:

“The value of certificates issued in terms of Sub-clause 14.6 (excluding the value of those special Materials specified in the Contract Data) shall be increased or decreased by applying a Contract Price adjustment factor calculated according to the formula and the conditions set out in the Contract Price adjustment Schedule appended to these Particular Conditions.

Price adjustments for variations in the costs of Special Materials specified in the Contract Data shall be made in the manner set out in the Contract Price adjustment schedule.”

14.3 Application for Interim Payment Certificates

In the 1st line of the 1st paragraph, delete “in six copies.”

In the 4th line of the 1st paragraph, change “the report” to “reports.”

In the 2nd paragraph, sub-paragraph (c), after “above amounts” insert “and 80% of the value of Materials on Site” and add the following as a final paragraph:

~~“Upon receiving the Taking-Over Certificate, and complying with its conditions, the cash retention will be paid to the Contractor. The Performance Guarantee will remain valid until the issue of the Performance Certificate.”~~

14.5 Plant and Materials intended for the Works

In the first paragraph delete “If this Sub-Clause applies”

Delete the 2nd paragraph.

In the 3rd paragraph, delete sub-paragraphs (b) and (c) (i) and amend sub-paragraph (a) so that (c) (ii) becomes (a) (iii) thus;

“(a)(ii) supported by satisfactory evidence; and
(a)(iii) the relevant Materials have been delivered to and.....”

Add the following paragraph:

“If so agreed in writing by the Employer, the provisions of this Sub-Clause 14.5, as amended herein, shall apply equally to Materials intended for incorporation in the Permanent Works and stored at places other than the Site.”

14.6 Issue of Interim Payment Certificates

In the 2nd line of the 1st paragraph replace “28” with “14”.

14.7 Payment

In sub-paragraphs (b) and (c) of the 1st paragraph replace “56” with “28”.

Delete the 2nd paragraph.

14.8 Delayed Payment

Replace the 2nd paragraph with the following:

“These financing charges shall be at the rate prescribed in terms of the Prescribed Rate of Interest Act, 1975 (Act No 55 of 1975).”

14.10 Statement at Completion

In the 2nd line of the 1st paragraph delete “six copies of”.

14.11 Application for Final Payment Certificate

In the 2nd line of the 1st paragraph delete “six copies of”.

In the 3rd paragraph, replace the last sentence with:

“Thereafter, when the dispute is finally resolved, the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.”

14.15 Currencies of Payment

Delete this sub-clause.

15.2 Termination by the Employer

Delete subparagraph (f) and replace with the following:

“(f) Gives or has given, offers to give or has offered to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:

- (i) or doing or forbearing to do any action in relation to the Contract or any other contract with the Employer, or
- (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other contract with the Employer,

or if any of the Contractor’s Personnel, agents or Sub-contractors gives or has given, offers to give or has offered to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor’s Personnel shall not entitle termination.”

Add the following sub-paragraph:

“(g) Misrepresented, whether innocently, negligently or fraudulently, the true facts requested in the tender documents.”

Insert the following after the expression e) or f) in the penultimate line of the second paragraph;

“or g)”

Replace the full stop at the end of the third paragraph with a comma and add the following:

"including the right to terminate any other contract between the Employer and the Contractor and to forbid the Contractor or any employee, partner, shareholder or director of the Contractor to tender on any future projects put out to tender by the Employer for a period of five years from the date of notice of termination, which period may be reduced by application to and at the sole discretion of the Employer.”

15.5 The Employer has the right but not the obligation to terminate the contract by way of written notice to the Contractor, should the Construction Works Permit not be issued by the Department of Labour within sixty days of the date of the Form of Acceptance. In the event of termination, neither party shall have a claim against the other arising out of the termination.

17.3 Employer’s Risks

Add the following to sub-paragraph (c):

“unless these risks are insurable with the South African Special Risks Insurance Association (SASRIA) at the time of tendering and it is stipulated in the Contract Data that the Contractor is to effect insurance against these risks.”

Replace sub-clauses 18.1, 18.2, 18.3 and 18.4 with the following:

“18.1 General Requirements for Insurances

“(a) Employer's Insurance

Without limiting the Contractor's responsibilities under this Contract, the Employer shall subject to the Terms, Limits, Exceptions and Condition of the Policy effect, in the joint names of the Employer, SANRAL, the Lenders (as defined in the Concession Contract), the Independent Engineer, the Contractor and its sub-contractors for their respective rights and interests in the terms of the insurance referred to in Part A of Appendix A on terms compliant with Part C of Appendix A.

(b) Contractor's Insurance

The Contractor shall effect and maintain, from the Commencement Date of Works under this Contract until the completion of its obligations hereunder in respect of the Works, insurance in accordance with Part B of Appendix A. All insurances referred to in this 18.1(b) shall be in the joint names of the Employer, SANRAL, the Lenders and the Independent Engineer and all other parties with an insurable interest and indemnify the Employer, SANRAL, the Engineer and the Independent Engineer and their respective agents, employees or workmen, without any right of subrogation against him or them, in respect of claims that may be made against him or them arising out of or in the course of or in connection with the carrying out of the Works or the performance of the duties in connection therewith or incidental thereto. Such insurances which are to be effected by the Contractor shall be effected with the same insurers as the Employer to the extent commercially reasonable, or otherwise with insurers whose identity has been approved by the Employer, and on terms compliant with Part C of Appendix A.

(c) Requirements as to Insurance

(i) The Contractor will comply and ensure that its Sub-Contractors of all tiers comply with the terms and conditions of all insurances effected in accordance with

this Clause 18.1 and the procedures for claims notification and registration thereunder and shall do nothing or omit to do anything which might prejudice such insurances.

(ii) In the event of loss or damage to the Works and save to the extent that such loss or damage was caused by the act or default or breach of this Contract by the Employer or persons for whom it is responsible, the Contractor shall be responsible for the amount of any deductibles under the insurances effected in respect of such loss and damage and shall not be entitled to any payment in respect of the restoration thereof other than the monies received under such insurances.

(iii) Insofar as the Contractor is dissatisfied with the terms and conditions of any of the insurances effected by the Employer the Contractor may effect, at its own cost and on terms compliant with the provisions of this Clause 18.1 such additional insurance as it may consider necessary.

(iv) The Contractor shall, in performance of its obligations pursuant to Clause 18.1(b), provide to the Employer (with copies to the Engineer, the Independent Engineer and the Lenders) certified copies of the certificates of such insurances and notify the Employer, the Engineer, the Independent Engineer and the Lenders immediately should any of such insurances be cancelled, varied or not renewed.

(v) All insurances specified in this Clause 18.1 and Parts A and B of Appendix A shall be reviewed annually in consultation with the Employer and, subject to the other provisions of this Clause 18.1(c), the extent and adequacy of the coverage provided in terms of this Clause 18.1 and Appendix A shall, if necessary, be adjusted in order to ensure that coverage is commensurate with the related risks.

(d) Notification of Claims

(i) The Contractor shall give the Engineer and the Independent Engineer immediate notification of any claim under any of the insurance policies referred to in this Clause 18.1 accompanied by as much detail of the incident giving rise to such claim as may be required by the relevant insurance policy.

(ii) Without prejudice to Clauses 18.1(c)(i), 18.1(d)(i) and 18.1(e), the Contractor shall take all steps as are necessary or may be appropriate to make and pursue for its benefit (including that of its sub-contractors) claims against the insurances effected in accordance with this Clause 18.1.

(e) Application of Proceeds

(i) The proceeds of any claims under the all risks insurance policies and under the property all risks policies referred to in Appendix A shall be applied to the repair and restoration of the Works except to the extent that the event resulting in the claim being made under an insurance policy is an event which has resulted in the termination of this Agreement in which case the proceeds shall be retained by the Employer. The Employer shall, in this regard, keep the Engineer and the Independent Engineer informed of the status in regard to the application of proceeds received from insurances.

(ii) All proceeds received from insurers in respect of insurances referred to in Clause 18.1(e)(i) shall be paid in the first instance to the Employer. The Employer shall, following receipt of the proceeds from the insurers, pay to the Contractor by instalments pursuant to payment certificates issued under Clause 14.6 such amounts as may be determined by the Employer as being proportional to the extent of the Works repaired or restored by the Contractor and works in respect of the removal and disposal of debris carried out by the Contractor.

(iii) The Contractor hereby irrevocably authorises the Employer to instruct (and shall forthwith confirm such authorisation and instruction to) the insurers to pay all monies from the insurances referred to in Clause 18.1(e)(i) to the Employer or as the Employer shall direct.

(f) Contractor's Obligation to Restore Work Damaged

If any loss or damage to the Works or any part thereof or any unfixed materials, plant or equipment is occasioned by any one or more of the perils insured against by the insurances referred to in this Clause 18.1 and/or any of the risks assumed by the Contractor, under this Contract, the Contractor shall, notwithstanding that settlement of any insurance claim has not been completed, with due diligence, restore work damaged, repair or replace any unfixed materials, plant or equipment which have been destroyed or damaged, remove and dispose of any debris and proceed with the execution of the Works."

19.1 Force Majeure

In paragraph 2, delete the words "but is not limited to"

19.5 Force Majeure Affecting Subcontractor

Amend the title to read "Force Majeure Affecting Subcontractor and Supplier".

In the first line insert "or supplier" after the word "Subcontractor"

20.1 Contractor's Claims

In paragraph 5, insert the following after the first sentence;

"If an extension of time is granted the Contractor will not be paid additional time-related Preliminary and General allowances or any other costs. Payment of any other costs will only be considered if the costs derive from claims that fall within the terms of Clause 13 [Variations and Adjustments]"

Replace the 6th paragraph with the following:

"After receiving a claim or any further particulars supporting a previous claim, the Engineer shall present such claim or particulars to the Employer, together with his recommendations, for a ruling, which ruling shall be given to the Contractor within 42 days after receiving a claim or any further particulars, provided that the said period of 42 days may be extended by application from one Party and approval of the other. If the Employer fails to give his ruling within the specified period, or agreed extension thereto, it shall be deemed that the Employer has dismissed the claim."

Delete the 8th paragraph.

Replace sub-clauses 20.2 to 20.8 with the following:

"20.2 Settlement of Disputes

(a) The Contractor or the Employer shall have the right to dispute any ruling given or deemed to have been given by the Engineer or the Independent Engineer, as the case may be, provided that, unless the Contractor shall, within 42 days after his receipt of a ruling or after a ruling shall have been deemed to have been given, give written notice (hereinafter referred to as a "Dispute Notice") to the Engineer and/or the Independent Engineer (depending upon who issued the ruling), referring to this Clause, disputing the validity or correctness of the whole or a specified part of the ruling, he shall have no further right to dispute that ruling or the part thereof not disputed in the said Dispute Notice.

(b) All further references herein to a ruling shall relate to the ruling, or part thereof, specified in the Dispute Notice, as varied or added to by agreement between the Contractor, the Employer, the Engineer and/or the Independent Engineer or by the Engineer and/or the Independent Engineer's decision in terms of sub-paragraph (c) or by the Mediator's opinion to the extent that it has become binding in terms of Sub-clause 20.3 (f).

(c) The Engineer and/or the Independent Engineer, as the case may be, shall

i) before giving his decision on the dispute, consult the parties thereon and give each party a reasonable opportunity to present written or oral submissions thereon, which latter shall be confirmed in writing within 7 days;

ii) deliver his decision in writing to the Employer and to the Contractor, and

iii) give his decision within 56 days of his receipt of the Dispute Notice, or within any further period as may be granted by the Engineer and/or the Independent Engineer, failing which, he shall be deemed to have given a decision affirming, without amendment, the ruling concerned.

(d) Unless either the Employer or the Contractor, shall, within 28 days after his receipt of notice of the decision in terms of sub-paragraph (c) (ii) or after the decision is deemed to have been given in terms of sub-paragraph (c) (iii), have given notice in writing to the Engineer and/or the Independent Engineer, with a copy to the other Party, disputing the Engineer's and/or the Independent Engineer's decision or a specific part thereof, he shall have no further right to dispute any part of the ruling not specified in his said notice.

(e) If either Party shall have given written notice in compliance with sub-paragraph (d), the dispute shall be referred to mediation in terms of Sub-Clause 20.3 unless either Party has given written notice to the other Party of its intention to refer the matter in dispute to arbitration, which notice shall be given either:

i) within 28 days of receipt of notice of the Engineer and/or the Independent Engineer's decision, or

ii) within 14 days of receipt by the one Party of the other Party's notice of dispute of the Engineer and/or the Independent Engineer's decision.

If notice of intention to refer the matter in dispute to arbitration has been served by either party, the matter in dispute shall not be referred to mediation but shall be referred to arbitration.

(f) Notwithstanding that the Contractor may, in respect of a ruling, have given a Dispute Notice, the ruling shall be of full force and carried into effect unless and until otherwise agreed by both Parties in terms of Sub Clause 20.3 (f) or as determined by arbitration.

20.3 Mediation

(a) The mediation referred to in Sub-Clause 20.2 (e) shall be conducted by a mediator selected by agreement between the Parties or, failing such agreement within 7 days after a written request by either Party for such agreement, nominated on the application of either Party by the President for the time being of the South African Institution of Civil Engineering.

If, for any reason, the person appointed fails to assume or to continue in the office concerned:

(i) the provisions of Sub-Clause 20.3 shall apply mutatis mutandis in the appointment of a successor,

(ii) in making his nomination in terms of this sub-clause, the president for the time being of the South African Institution of Civil Engineering shall, at his own discretion, act in consultation with the presidents for the time being of the South African Association of Consulting Engineers and the South African Federation of Civil Engineering Contractors, and

(iii) if the president required to make a nomination in terms of this sub-clause shall have a direct or indirect interest in the subject matter of the dispute, the nomination shall be made by the chief executive officer or the next senior officer of the body concerned who has no such interest.

(b) Neither Party shall be entitled to be represented at any hearing before, or at, any meeting, or in any discussion, with the mediator except by any of the following:

(i) the Party himself, if a natural person,

(ii) a partner in the case of a partnership,

- (iii) an executive director in the case of a company,
 - (iv) a member in the case of a close corporation,
 - (v) the Engineer,
 - (vi) a bona fide employee of the party concerned, and
 - (viii) a professional engineer appointed for the purpose by the Party concerned.
- (c) The mediator shall, as he deems fit, follow formal or informal procedure and receive evidence or submissions orally or in writing, sworn or unsworn, at joint meetings with the Parties or separately or from any person whom he considers can assist in the formulation of his opinion, provided that:
- (i) each Party shall be given reasonable opportunities of presenting evidence or submissions and of responding to evidence or submissions of the other Party, and
 - (ii) each Party shall be given full details of any evidence or submissions received by the Mediator from the other Party or any other person otherwise than at a meeting where both Parties are present or represented.
- (d) The mediator shall have the power to propose to the Parties compromise settlements of or agreements in disposal of the whole or portion of the dispute.
- (e) The mediator shall, as soon as reasonably practical, give to each of the Parties his written opinion on the dispute, setting out the facts and the provisions of the Contract on which the opinion is based and recording the details of any agreement reached between the Parties during the mediation.
- (f) The mediator's opinion shall become binding on the Parties only to the extent correctly recorded as being agreed by the Parties in the mediator's written opinion or otherwise as recorded as being agreed in writing by both Parties subsequent to the receipt of the mediator's opinion.
- (g) The dispute on any matter still unresolved after the application of the provisions of sub-paragraph (f) shall be resolved by arbitration.
- (h) Save for reference to any portion of the mediator's opinion which has become binding in terms of sub-paragraph (f), no reference shall be made by or on behalf of either Party, in any proceedings subsequent to mediation, to the mediator's opinion, or to the fact that any particular evidence was given, or to any submission, statement or admission made in the course of the mediation.
- (i) Irrespective of the nature of the mediator's opinion:
- (i) each Party shall bear his own costs arising from the mediation, and
 - (ii) the Parties shall in equal shares pay the mediator the amount of his expenses and the amount of his fee based on a scale of fees as agreed between the mediator and the Parties before the commencement of the mediation.

20.4 Arbitration

- (a) Any dispute of whatsoever nature which arises out of or in connection with this Contract, including any dispute as to the validity, existence, enforceability, interpretation, application, implementation, breach, termination or cancellation of this Contract or as to the parties' rights and/or obligations in terms of this agreement or in connection with any documents furnished by the parties pursuant to this Contract, shall if so required by either party by giving written notice to the other be submitted to arbitration in accordance with this 20.4 and the arbitration laws for the time being in force in the Republic of South Africa.
- (b) This 20.4(b) shall not preclude either party from obtaining interim relief on an urgent basis from a court of competent jurisdiction pending the decision of the arbitrator.
- (c) The arbitrator shall, if the dispute is agreed in writing by the parties to be
- (i) primarily an engineering matter, an independent practising engineer of not less than ten years standing as such;

- (ii) primarily an accounting matter, be an independent practising accountant of not less than ten years' standing as such;
- (iii) primarily a legal matter, be an attorney of not less than ten years' standing as such or a practising senior counsel;
- (iv) any other matter, be a suitably qualified independent person;

agreed upon in writing by the parties; provided that if the parties do not, within three days after the date on which the arbitration is demanded, agree in writing as to the nature of the dispute and the identity of the arbitrator, the arbitrator shall, irrespective of the nature of the dispute, be appointed by the Chairman of the Association of Arbitrators or its successor in title upon request by either party to make such appointment after the expiry of such three day period.

(d) The arbitration shall be held at a venue in the Gauteng Province and in accordance with formalities and/or procedures determined by the arbitrator, and may be held in an informal and summary manner, on the basis that it shall not be necessary to observe or carry out the usual formalities or procedures, pleadings and/or discovery, or the strict rules of evidence.

(e) The arbitrator shall have the power, inter alia, to -

- (i) investigate any matter, fact or thing which he considers necessary or desirable in connection with the dispute and, for that purpose, shall have the widest powers of investigating all the books, records, documents and other things in the possession or under the control of any party, the right to take copies thereof and/or make extracts therefrom, the right to inspect goods and/or property of the parties, and the right to have such books, records, documents, goods and/or property produced and/or delivered at any place reasonably required by him;
- (ii) summon as a witness any person who may be able to give relevant evidence. Each party undertakes to use reasonable endeavours to procure the attendance when summoned of any witness employed by it or otherwise under its control;
- (iii) interview, question and cross examine under oath any witness;
- (iv) record evidence;
- (v) make an award regarding the amount and responsibility for payment of legal fees and the arbitrator's remuneration;
- (vi) call for the assistance of any other person who he may deem necessary to assist him in arriving at his decision;
- (vii) make such temporary or final order or award (including a rule nisi, a declaratory order, an order for specific performance, an interdict and an award of damages or a penalty) as a High Court would be competent to make in the circumstances; and
- (viii) exercise any additional powers which are conferred on him in terms of the Arbitration Act No 42 of 1965,
- (vix) and to allow or cause any of the aforementioned things to be done.

(f) The arbitration shall be held as quickly as possible after it is demanded with a view to its being completed within thirty days after it has been so demanded.

(g) Immediately after the arbitrator has been appointed, either party shall be entitled to call upon the arbitrator to fix a date and place when and where the arbitration proceedings shall be held and to settle the procedure and manner in which the arbitration proceedings will be held.

(h) Any order or award that may be made by the arbitrator

- (i) shall be final and binding;
- (ii) shall be carried into effect; and
- (iii) may be made an order of any competent court.

(i) The hearing of the arbitration shall be held in camera. Save to the extent strictly necessary for the purposes of the arbitration or for any court proceedings related thereto, neither party shall disclose or permit to be disclosed to any person any information concerning the arbitration or the award (including the existence of the arbitration and all process, communications, documents or evidence submitted or made available in connection therewith).

(j) This 20.4

(i) constitutes an irrevocable consent by the parties to any proceedings in terms hereof; and

(ii) is severable from the other provisions of this agreement and shall remain in effect notwithstanding the termination or invalidity for any reason of this agreement.

20.5 Obligations During Arbitration

Pending any attempt at amicable settlement or any award pursuant to 20.3 or 20.4, the Contractor shall, and shall cause its Sub Contractors of all tiers to, continue to perform their respective obligations hereunder unless otherwise instructed in writing by the Employer. Pending any such settlement or award, the Employer shall continue to perform its obligations under this Contract.

20.6 Continuing Validity of Sub-Clauses 20.2 to 20.6

Sub-Clauses 20.2 to 20.6 inclusive constitute a separate, divisible agreement from the rest of the Contract and shall remain valid and applicable, notwithstanding that the Works may have been completed or that the rest of the Contract may be void or voidable or may have been cancelled for any reason.”

18. INSURANCE **APPENDIX A**

1 PART A: EMPLOYER'S INSURANCE

1.1 Construction All Risks Insurance

1.1.1 This policy will provide protection to SANRAL, the Employer, the Lenders and, Contractors and its Sub-contractors in the project against loss or/ or damage to the Works. Indemnity shall be on a replacement cost basis for the full replacement value of the Works, and other related works, plant and materials. Replacement value to cover other related costs (i.e. debris removal and professional fees).

1.1.2 The Construction All Risk insurance cover shall as a minimum be based upon a DE3 wording and cover shall be provided up to the issue of the Taking Over Certificate – plus the required Defects Notification Period.

1.1.3 Perils will be on an all risks basis to cover loss or damage from any cause including fire, lightning, explosion, storm, tempest, flood, earthquake and such perils as are insurable by the South African Special Risks Insurance Association.

1.1.4 Subrogation against any party insured under this policy is to be waived.

1.2 Third Party Liability Insurance

1.2.1 This category of insurance must provide protection for SANRAL, the Employer, the Lenders, Contractors and its Sub-contractors and arising directly from the execution of the Works against third party claims liability arising from the Contractor's performance of the Works, including legal and/or contractual costs incurred by the insured parties for bodily injury, death or property damage to third parties including Legal Defence - costs and expenses in addition.

1.2.2 Policies are to provide for cross liability of the Insureds and against all Insureds i.e. all the Insureds as defined above, are to be considered as third parties, one in respect of the other, from the Commencement Date to the date of issue of a Taking Over Certificate plus the required Defects Notification Period in respect of the Works or any part thereof.

1.2.3 The general cover limit of such insurance cover is R 30 000 000.00 with a total limit of cover of R 50 000 000.00 per claim/unlimited in number during the period during which the Works are to be carried out.

1.2.4 Lateral Support – Employers Risk

Specific Lateral Support insurance must be arranged for a limit of indemnity of R 30 000 000.00 insofar as the construction activities bear such risk. The Contractor is to notify the Employer at date of commencement of works where lateral support cover would be required.

1.3 Deductibles/Excess (Refer to Clause 18.1(c)(ii))

Any One Occurrence or Event	
Civils and Earthworks:	R 30,000.00
Other Loss or Damage:	R 20 000.00
Third Party Property Damage:	
First R 30 000 000.00	R 25 000.00
Thereafter	R 50 000.00

2. **PART B: CONTRACTOR'S INSURANCE**

2.1 Motor Vehicle Liability Insurance

Motor vehicle liability insurance must be arranged for a limit of not less than R 5 000 000.00.

2.2 Contractors Equipment Insurance

Contractors own or hired in equipment (plant that will not form part of the Permanent Works).

2.3 SASRIA

South African Special Risks Insurance Association cover must be arranged on motor vehicles, plant, site accommodation, tools and equipment.

2.4 Site Accommodation

Site accommodation, tools and equipment shall be insured at market value.

2.5 COIDA

The necessary insurances must be arranged to ensure that all statutory obligations concerning the Compensation for Occupational Injuries or Diseases Act are complied with.

2.6 Common Law Liability

Contractor's common law liability (Employers Liability) insurance in respect to liability to employees for an indemnity of R 5 000 000.00 must be arranged.

3. **PART C: TERMS OF INSURANCE**

3.1 If either Party is unable to obtain insurance in the sums or on the terms required either at all or at a reasonable commercial rate, it shall immediately notify the other Party of any material areas of change in the terms or level of the insurance cover and shall restore the terms and level of cover to the required levels as soon as such become available at a reasonable commercial rate.

3.2 Should the Employer and the Contractor disagree with respect to what is "a reasonable commercial rate" in Clause 3.1, either Party may request the other Party to agree within 7 Business Days on an independent insurance expert to make a determination in that regard. Should the Parties be unable to agree on the identity of such expert within 7 Business Days of the second Party being so requested, such expert shall be chosen by the President of the Institute of Chartered Accountants from among those leading international insurance brokers that are, at that time, active in the South African market to make such determination. The expert shall act as an expert and not as an arbitrator and the determination by such expert shall be final and binding on the Parties.

3.3 The Employer and Contractor shall maintain the aforementioned insurances on the best terms available in the South African and international insurance markets with reliable insurers of adequate financial strength and experience which are authorised by the relevant State authorities to provide the respective coverage.

C1.2.2 CONTRACT DATA – INFORMATION PROVIDED BY THE EMPLOYER

Note: Clause numbers (Cl. No.) refers to the FIDIC “General Conditions of Contract for Construction for Building and Engineering Works designed by the Employer”(1999). The prefix A refers to an amendment in the Particular Conditions.

<i>Item</i>	<i>Clause No</i>	<i>Data</i>
Employer	1.1.2.2	<p>means the N3 Toll Concession (RF) Proprietary Limited or a person delegated by the N3 Toll Concession (RF) Property Limited to act on its behalf</p> <p>The Employer’s address is:</p> <p><i>Physical address</i> 1st Floor, Block D, Southdowns Office Park, Cnr John Vorster Drive & Karee Street, Irene, 0062</p>
Engineer	1.1.2.4	<p>Means N3 Toll Concession (RF) Proprietary Limited (N3TC) or a person delegated by N3TC to act on its behalf</p> <p>The engineer’s address to be used for this contract is:</p> <p><i>Physical address</i> 1st Floor, Block D, Southdowns Office Park, Cnr John Vorster Drive & Karee Street, Irene, 0062</p>
Independent Engineer	A1.1.2.13	<p>means Zutari (Pty) Ltd or a person delegated by Zutari (Pty) Ltd to act on its behalf</p> <p>The Independent Engineer’s address to be used for this contract is:</p> <p><i>Physical address</i> Riverwalk Office Park, 41 Matroosberg Road, Ashlea Gardens, Extension 6 Pretoria, 0081</p> <p><i>Postal address</i> P O Box 74381 Lynnwood Ridge 0040</p>
Communications Employer	1.3	<p>The addresses for communication between the parties during the tender phase shall be:</p> <p><i>Address</i> N3 Toll Concession (RF) Proprietary Limited</p> <p><i>Email address</i> n3tc2022hs4.tender@n3tc.co.za</p>
Period of validity of tender		90 days after the closing date for tenders
Time for completion of works	1.1.3.3	3 (three) months maximum including all non-working days (A6.5)
Defects Notification Period	1.1.3.7	12 calendar months.
Time for access to the site	2.1	7 Days
Amount of performance security	4.2 A4.2	Not required.

<i>Item</i>		<i>Clause No</i>	<i>Data</i>
Special hours/days	non-working	A6.5	Contractors annual holidays in December and January, all designated public holidays (including all foreseeable statutory declared election days), Sundays and restrictions provided by the N3TC Critical Dates Year Planner.
Period in which works must commence		A8.1	Not later than 7 days after the Commencement Date.
Delay damages for the works		A8.7	R 1,000.00 per calendar day. In addition: i. Accommodation of traffic non-compliance (i) Occurrence – R5 000.00/number (ii) Time delay – R500.00/hour ii. Overloading – 2 x Unit Rate x weight factor x distance hauled iii. Contract Participation Targets – 50% of unachieved target iv. Environmental R10,000.00 per EMP non-conformance reported.
Evaluation		A12.3	The term “fixed rate item” shall apply to all items of work listed in the Pricing Schedule (including agreed items of work listed in variation orders).
Daywork allowances		A13.6	Remuneration of workmen plus 15%, materials at cost plus 7%
Interim Payments		14.3	30 days after providing Tax Invoice
Price Variations		A13.8	Not applicable.
Retention money Percentage Limit		A14.3(c) A14.3(c)	Not Applicable Not Applicable
Retention Guarantee		A14.3(c)	Not Applicable
Minimum amount of interim payment certificate		A14.6	Not applicable
Contractor to insure with SASRIA		A17.3(c)	Required
Target Areas		D1002(f)	For Targeted Labour: As agreed with the Employer and local Inkosi Langalibalele PLC.
Contract Participation Goals (CPG) Labour content		D1003(a)	As required by the Employer Only local labour from the vicinity of the Package may be employed.
SMME/BE utilization			Required

SIGNED ON BEHALF OF THE TENDERER:

DATE:

C1.2.3 CONTRACT DATA – INFORMATION PROVIDED BY THE TENDERER

The Contractor is

Address:

Telephone:

Facsimile:

The authorised and designated representative of the CONTRACTOR is:

Name:

The address for receipt of communications is:

Telephone:

Facsimile:

Address:

Email address:.....

C1.3 OTHER STANDARD FORMS

C.1.3.3 FORM OF AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993

(ACT NO. 85 OF 1993)

This AGREEMENT made at on this the day of in the year between N3 TOLL CONCESSION (PTY) LTD (hereinafter called "the Employer") on the one part, herein represented by in his capacity as and delegate of the Employer in terms of the Employer's standard powers of delegation pursuant to the provisions of Act No. 7 of 1998 and (hereinafter called "the Mandatory") of the other part, herein represented by in his capacity as

WHEREAS the Employer is desirous that certain works be constructed, viz **CONTRACT N3TC/RM-2022-601: DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4: CONSTRUCTION OF A CONCRETE LINED DRAIN**

and has accepted a tender by the Mandatory for the construction, completion & maintenance of such works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Mandatory shall execute the work in accordance with the contract documents pertaining to this contract.
2. This Agreement shall hold good from its commencement date, to either:
 - a) the date of the Performance Certificate issued in terms of sub-clause 11.9 of the FIDIC Conditions of Contract for Construction for building and engineering works designed by the Employer (1999) (hereinafter referred to as "the GCC"), as contained in Volume 1 of the contract documents pertaining to this contract, or
 - b) the date of termination of the contract in terms of clauses 15, 16 or 19 of the GCC.
3. The Mandatory declares himself to be conversant with the following:-
 - a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act.
 - i) Section 8: General duties of Employers to their employees.
 - ii) Section 9: General duties of Employers and self-employed persons to persons other than employees.
 - iii) Section 37: Acts or omissions by employees or mandatories and
 - iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement.
 - b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his sub-contractors.
4. In addition to the requirements of sub-clause 4.8 ,6.7 and 17.1 of the GCC and all relevant requirements of Volume 3 of the contract documents pertaining to this contract, the Mandatory agrees to execute all the works forming part of this contract and to operate and utilize all machinery, plant and equipment in accordance with The Act.
5. The Mandatory is responsible for the compliance with the Act by all his sub-contractors, whether or not nominated and/or approved by the Employer.
6. The Mandatory warrants that all his and his sub-contractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993 which cover shall remain in

force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.

7. The Mandatory undertakes to ensure that he and/or his sub-contractors and/or their respective employees will at all times comply with the following conditions:
 - a) The Mandatory shall assume the responsibility in terms of Section 16.1 of The Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of The Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
 - b) All incidents referred to in The Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
 - c) The Employer hereby obtains an interest in the issue of any formal enquiry conducted in terms of section 32 of The Act into any incident involving the Mandatory and/or his employees and/or its sub-contractors.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF EMPLOYER:.....

WITNESS:

NAME (IN CAPITALS):.....

SIGNED FOR AND ON BEHALF OF THE MANDATORY:

WITNESS:

NAME (IN CAPITALS):

(A) PART C2: PRICING DATA

PART C2: PRICING DATA

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(b) C2.1 PRICING INSTRUCTIONS

C2.1.1 Measurement and payment shall be in accordance with the relevant provisions of the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition) as amended in the Scope of Works.

C2.1.2 The units of measurement described in the Pricing Schedule are metric units. Abbreviations used in the Pricing Schedule are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometer
km-pass	=	kilometer-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimeter
m ²	=	square metre
m ² -pass	=	square metre-pass
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC Sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000kg)
W/day	=	Work day

C2.1.3 For the purpose of the Pricing Schedule, the following words shall have the meanings assigned to them:

Unit: The unit of measurement for each item of work as defined in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition).

Quantity: The number of units of work for each item.

Rate: The payment per unit of work for which the Service Provider tenders to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Lump Sum: An amount tendered for an item, the extent of which is described in the Pricing Schedule, the Scope of Work or elsewhere, but of which the quantity of work is not measured in units.

C2.1.4 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

C2.1.5 It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28

days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information standards)

- C2.1.6 The prices and rates in the Pricing Schedule are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
- C2.1.7 Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items.
- C2.1.8 An item against which no price is entered will be considered to be covered by the other prices or rates in the Pricing Schedule. A single lump sum will apply should a number of items be grouped together for pricing purposes.
- C2.1.9 The quantities set out in the Pricing Schedule are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Pricing Schedule.
- C2.1.10 Reasonable compensation will be received where no pay item appears in the Pricing Schedule in respect of work required in terms of the Contract and which is not covered in any other pay item.
- C2.1.11 The short descriptions of the items of payment given in the Pricing Schedule are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
- C2.1.12 The item numbers appearing in the Pricing Schedule refer to the corresponding item numbers in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition)

(c) C2.2 PRICING SCHEDULE

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**N3 TOLL CONCESSION (RF) PROPRIETARY LIMITED
CONTRACT: N3TC/RM-2022-601**

**DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN**

(e) SECTION A: STANDARD AMENDMENTS ISSUED BY COLTO

Notes to tenderer

1. The Standard Specifications for Road and Bridge Works for State Road Authorities 1998, prepared by the Committee of Land Transport Officials, (COLTO), as amended, shall apply to this contract. The amendments are those issued by COLTO and reproduced in Section A, together with additional amendments as set out in Section B.
2. 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 (Clause 1115 of the Standard Specifications refers).

The General Conditions of Contract applicable to this contract are the "Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer" (1999), issued by the International Federation of Consulting Engineers (FIDIC) and the necessary amendments to the Standard Specifications have been made and included in the Project Specifications contained in this document.

3. The terms "Schedule of Quantities", (used throughout the Standard Specifications) and "Bill of Quantities", (used in all other documents forming part of this contract), and "Pricing Schedule" are synonymous.

**N3 TOLL CONCESSION (RF) PROPRIETARY LIMITED
CONTRACT: N3TC/RM-2022-601**

**DRAINAGE MAINTENANCE ON THE N3 TOLL ROAD: HIGHWAY SECTION 4:
CONSTRUCTION OF A CONCRETE LINED DRAIN**

(f) SECTION B: PROJECT SPECIFICATION AMENDMENTS TO THE STANDARD SPECIFICATIONS

Notes to tenderer:

1. 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.
2. The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or a new payment item which does not form part of a clause or a payment item in the standard specifications and 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.
3. The tenderer shall note that the standard COLTO specification is based on the COLTO General Conditions of Contract. References to specific COLTO General Conditions of Contract clauses will need to be exchanged for the equivalent clause in the FIDIC Conditions of Contract as amended by the Particular Conditions of Contract to be found in Part C-1 of this document. The employer assumes no responsibility for the Contractor's interpretation of which is the correct relevant clauses.

C3 PROJECT SPECIFICATIONS

SERIES 1000: GENERAL

SECTION B1100: DEFINITIONS AND TERMS

B1115 GENERAL CONDITIONS OF CONTRACT

(g) Replace Clause 1115 with the following:

The General Conditions applicable to this Contract are the FIDIC Conditions of Contract for Construction for Building and Engineering Works designed by the Employer, 1st Edition 1999.

Accordingly, all reference in the Standard Specifications to any other General Conditions of Contract (GCC) has to be amended. The Standard Specifications have been scrutinized and clauses which refer to another GCC identified. These are tabulated below together with the relevant equivalent clause in the FIDIC Conditions of Contract. The context of the reference to the GCC is also noted.

Whereas every effort has been made to include all of the affected clauses in the table, there may be some omissions. In every case, however, the FIDIC Conditions of Contract for Construction, as amended by the Particular Conditions of Contract in Part C1 of this Volume, shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

CHANGES TO REFERENCES BY THE COLTO STANDARD SPECIFICATIONS TO THE COLTO GENERAL CONDITIONS OF CONTRACT AND FIDIC GENERAL CONDITIONS

COLTO Standard Specification		COLTO General Conditions of Contract 1998 (GCC)		FIDIC Conditions of Contract for Construction 1 st edition 1999	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
1115	1100-2		Definition of GCC		Definition of FIDIC
1204	1200-2	15	Construction programme	8.3	Construction programme
1204	1200-2		General reference to GCC		Applicable to FIDIC
1206	1200-3	14	Setting out of works	4.7	Setting out of works
1209(a)	1200-4		General references to GCC		Applicable to FIDIC
1209(e)	1200-5	52(2)	Valuation of material brought onto site	14.5	Equipment and material intended for use in the works.
1210	1200-5	54 (1)	Certificate of practical completion	10.1	Taking-over certificate
1212(1)	1200-7	49 (2)	CPA on alternative designs	13.8	CPA on alternative designs
1215	1200-9	45 (2)	Extension of time for completion due to abnormal rainfall.	8.4	Extension of time for completion due to abnormal rainfall.
1217	1200-10	35	Care of the works	17.2	Care of the works
1303(ii)	1300-1		General reference to GCC		Applicable to FIDIC
1303(iii)	1300-1	49	Price adjustment Item 13.01 (a)	13.7&13.8	Price adjustment Item 13.01 (a)
1303 (iii)	1300-2	49	Price adjustment Item 13.01 (b)	13.7&13.8	Price adjustment Item 13.01 (b)
1303 (iii)	1300-1	53	Variations exceeding 20%		Not applicable to this contract
1303 (iii)	1300-2	53	Variations exceeding 20%		Not applicable to this contract
1303	1300-2	12	Payment Item 13.01 (c)	8.1	Payment Item 13.01 (c)
1303	1300-2	45	Payment Item 13.01 (c)	8.4	Payment Item 13.01 (c)
1403(c)	1400-4	40 (1)	Variation for rented accommodation	13.3	Variation for rented accommodation
1505	1500-3	40 (1)	Variation for temporary drainage	13.3	Variation for temporary drainage
Item 15.08	1500-8	48	Payment of Provisional Sum	13.5	Payment of Provisional Sum
Item 15.09	1500/8	48	Payment of Provisional Sum	13.5	Payment of Provisional Sum
Item 15.11	1500-8	48	Payment of Provisional Sum	13.5	Payment of Provisional Sum

COLTO Standard Specification		COLTO General Conditions of Contract 1998 (GCC)		FIDIC Conditions of Contract for Construction 1 st edition 1999	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
Note (2)	3100-4	40	Payment for prospecting for materials	13.5	Payment for prospecting for materials
3204(b) (iii)	3200-2	40	Payment for oversize material	13.3	Payment for oversize material
3303(b)	3300-2	2	Engineer's decisions, with reference to materials classification	3	Engineer's decisions, with reference to materials classification
Item 44.06	4400-3		General reference to GCC, PC Sums	13.5	Provisional Sums in FIDIC
Item 45.06	4500-3		General reference to GCC, PC Sums	13.5	Provisional Sums in FIDIC
5803 (c)	5800-3	40	Variation, for landscaping	13.3	Variation, for landscaping
5805 (d)	5800-4	40	Variation, for grassing	13.3	Variation, for grassing
Item 58.10	5800-10	48	Payment for Extra Work	13.5	Payment for Extra Work
8103 (c)	8100-1	40	Variation, for testing material	13.3	Variation, for testing material
Item 81.02	8100-26		General reference to GCC, Provisional Sums		Applicable to FIDIC, Provisional Sums
Item 81.03	8100-26	22	Clearance of site on completion, with reference to core drilling	11.11	Clearance of site on completion, with reference to core drilling

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 rate.(Refer also to clause B1209(g))"

Add the following new clause:

"B1156 OTHER DEFINITIONS

The COLTO Standard Specification for Roads and Bridges 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 capitalized and non-capitalized 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 1.1.2.3 of the General Conditions of Contract, but who will only be formally identified by the formal Letter of Acceptance which will be bound into the final contract document.

Employer

The Employer and the employer is the same persona and are defined in Section C1.2.2, Contract Data and clause 1.1.2.2 of the General Conditions of Contract.

(h) Engineer

The Engineer and the engineer is the same persona and is defined in Section C1.2.1, Contract Data and clause 1.1.2.4 of the General Conditions of Contract

Retention Money

Retention Money is defined in clause 1.1.4.11 and sub-clause 14.3 of the FIDIC Conditions of Contract.

The amount of Retention Money required by the Employer is prescribed in Clause 14(c) of the Conditions of Contract, and C1.2.2 Contract Data.

The amount of Retention Money to be held by the Employer during the Defects Liability Period is a percentage of the Contract Price that is prescribed in C1.2.2 Contract Data.

Site

The site is defined in clause 1.1.6.7 of the General Conditions of Contract It is bound by the limits of construction as shown in the drawings or the description of the project and extends to also include the following:

- All areas necessary for accommodating the traffic as prescribed in section 1500 of the specification and the drawings.
- All borrow-pits defined in the applications approved by the relevant Department of Minerals and Energy.
- All haul roads constructed by the Contractor for purposes of access.

Works

The works is described in Part C4 of this document and is as defined in clause 1.1.5.8 of the General Conditions of Contract and prescribed in Sections B, C, D and E of this Volume.”

Add the following new clause:

“B1157 LANE OCCUPATION LEVY

Lane occupation is a charge levied by the Employer for use of its asset outside of times to which the contractor has committed himself through the original construction programme in terms of clause 8.3 of the FIDIC Conditions of Contract. The levy shall be applied each day, or part thereof, for the duration of the contractor’s unauthorised extended occupation of ramps or carriageway lanes to complete the required work. The levy shall be payable by the contractor in each and every time period that it occurs, and shall be deducted from the amount due to the contractor on the relevant monthly payment certificates.

The same levy shall be applied whenever during the Time for Completion or the Defects Notification Period the contractor is required to undertake repairs to defective work.

The levy shall be applied at the rate stated in the Contract Data and will be commensurate with the reduction in service levels imposed on road users by the contractor’s extended occupation. “

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

Add the following first paragraph:

“All reference to services in this clause shall mean utility services as well as traffic monitoring devices such as Comprehensive Traffic Observation (CTO), Speed Measuring Device (SMD), Variable Message Signs (VMS) and Weigh-in-Motion (WIM) stations.”

In the final paragraph, replace “clause 15” in the second line with “clause 8.3”

In the second paragraph, delete the word “utility” at the end of the second line.

In the final paragraph delete the second and third sentences starting with ‘Should’ and replace with the following:

“A table with all know services will be issued on award of the contract. However, before any work can commence the contractor shall verify the actual position of each station and bring to the attention of the Engineer any service that is not recorded. As the contractor is not authorised to remove or replace these facilities he shall:

- (i) Give preliminary notice, in writing to the relevant service provider, that the services on the site will require removal or protection prior to works being carried out in the vicinity of each station. The contractor shall advise the service provider of
 - a) The number of services, their locations and station ID numbers and
 - b) The proposed dates when work will commence in the vicinity of each service.
- (ii) In addition to the above preliminary notice, give the service provider 14 days written notice of the intention to commence work in the vicinity of each facility.
- (iii) Upon completion of the work in the vicinity of each facility, the contractor shall notify the service provider, in writing, that work is complete and the service may be reinstated.

In the case of dual audit CTO stations, the contractor shall ensure that at least one of the two toll audit CTO stations is operational at all times, and shall therefore programme work accordingly and in co-ordination with the service provider.

Any delay resulting from the removal/replacement of a service shall not be the subject of a claim, it being deemed that the contractor shall employ the services of the service provider as a subcontractor.

The CTO service provider is:
Mikros Traffic Monitoring (Pty) Ltd
P O Box 73882
LYNWOOD RIDGE
0040
Tel: (012) 810 3300
Fax: (012) 803 5756

Should the Contractor fail to inform the Employer of works in the proximity of a CTO, SMD, VMS or WIM (refer to paragraph 1 and Table 1202/1 of B1202), and should the result of the Contractors work result in damage to the CTO, SMD, VMS, or WIM, the Contractor shall be fined the sum of R 20,000.00. In addition, the 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.”

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 take cognizance of the weather conditions which may be expected during the contract period. The expected delays as a result of inclement weather and all other stoppages must be indicated on the programme.

The Commencement Date (FIDIC Clause 8.1) shall apply to the Works. The time for completion for the Works shall be three (3) months calculated from the Commencement Date. Delay damages for the Works shall be as indicated in FIDIC Sub-Clause 8.7 [*Delay Damages*] and A8.7 as amended in C1.2.2 Contract Data.

Upon hand over of the Works, the Contractor shall from then on be responsible for the maintenance of the Works during the period.

“In drawing up the programme the Contractor shall make allowance for the following:

- (i) All special non-working days and compulsory stoppages defined in C1.2.1 and Part C1.2.2 Contract Data.
- (ii) The expected delays defined in B1215: Delays resulting from inclement weather.
- (iii) The Time for Completion as indicated in Part C1.2.2 Contract Data.
- (iv) The following embargo hours and days:
 - a) The definition of “normal working hours” (as defined in Clause B1502(n)) taking cognizance of the reduced daylight hours during the winter months.
 - b) The restrictions provided by the N3TC CRITICAL DATES YEAR PLANNER (CDP) with particular reference to embargo days (as defined in Clause B1502(l)).
- (v) Construction is limited to the lengths of road that may be occupied at a time as specified in clause 1500 of these specifications.
- (vi) The following restricted working conditions:
 - a) Where road marking has been obliterated by the Works, temporary markings are to be applied before re-opening of the section to traffic.
 - b) Refer to B5701.
- (vii) All work must be completed within the contractual period.

Add the following sub clause:

“(c) 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 original approved programme. The Contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind.”

B1206 THE SETTING OUT OF WORK AND PROTECTION OF BEACONS

Replace “clause 14” in the first paragraph with “clause 4.7”

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.”

B1209 PAYMENT

(b) Rates to be inclusive

Add the following to the first paragraph:

“VAT shall be excluded from the rates.”

(c) The meanings of certain phrases in payment clauses:

Procuring and furnishing... (material)

Add the following:

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

(e) Materials on the site

Replace “clause 52” in the first line with “sub-clause 14.5”

Add the following sub-clauses:

“(g) Work in confined areas

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

(h) Trade names

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”.

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

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

“(including road studs)”

Add the following paragraphs after item (h):

“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 portions of the work, whether for unhindered use by the public or for accommodation of traffic while other portions are being constructed, shall not constitute use or occupation by the employer until the Taking Over Certificate is issued.

In addition to the listed specified items of work and regardless of the degree of beneficial occupation by the employer, the works shall be considered for Taking Over only if the following criteria have also been met:

- (i) The estimated cost to complete the outstanding work is less than 2% of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.
- (ii) The written list of outstanding items of work can be completed within 14 days of the list having been accepted in writing by the Contractor.
- (iii) Any information in the Contractor’s possession, which is required by the Engineer and has been requested in writing, has been supplied.
- (iv) The Regional Manager of the Department of Mineral Resources (DMR) has issued written confirmation to the contractor that they are satisfied with the final shaping to all quarries, borrow pits, stockpile areas, and spoil sites used or intended to be used under this contract. In the event that this written confirmation is not obtained from DMR within 60 days, the acceptance by the Independent Environmental Practitioner (IEP) will be sufficient for the issuing of the Taking Over Certificate. The confirmation from DMR will be a condition of the issue of the Performance Certificate.

The contents of this clause 1210 of the COLTO Standard Specifications, together with the above amendment, shall apply equally to the issue of a Taking Over Certificate in terms of Clause 10 of the FIDIC General Conditions of Contract.”

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

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 and the engineer’s office 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".

B1215 EXTENSION OF TIME RESULTING FROM INCLEMENT WEATHER

Change the existing heading of clause 1215 to read as above and wherever the expression 'abnormal rainfall' or 'rainy weather' is encountered replace it with 'inclement weather'.

Replace Clause 1215 with the following:

"Extension of time will not be awarded for inclement weather. The contractor will adjust his program monthly to ensure that delays do not impact on the construction programme."

B1219 WATER

Add the following:

"The supply of water for the purposes of the contract shall remain the Contractors responsibility and ensuring that the water is fit for purpose. There is no existing water permit to draw water from any river, the water used for the purposes of construction shall be appropriate in its use."

B1224 THE HANDING OVER OF THE ROAD RESERVE

Add the following paragraph:

"The road reserve within the defined limits of the contract falls within the limits of another contract that has already been let to a routine maintenance contractor who is obliged to conduct regular maintenance on the route on which this contract is sited. The contractor's responsibility for maintenance shall be restricted to the works as per this contract. The Routine Road Maintenance Contractors are managed by N3TC's Routine Maintenance Managers, based at Harrismith."

Add the following clauses (B1230 to B1233);

"B1230 MATERIALS

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

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

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

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

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

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

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

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

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

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

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

B1301 SCOPE

Add the following:

“This section also covers temporary de-establishment from site by the Contractor and re-establishment on site in the event of suspension of the construction activities on a temporary basis.”

B1302 GENERAL REQUIREMENTS

(c) Legal and Contractual Requirements and responsibilities.

Add the following as a second paragraph:

“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.

- i) Section C of the Scope of Works contains the Environmental Management Plan for this project. Its provisions regulate the contractor's construction methods to ensure responsible conduct and treatment of the environment relevant to the project. No separate payment mechanism has been made available for the contractor to allow for his compliance with relevant environmental legislation. The contractor shall include such costs in the existing payment items under section B1303 Payment. The Contractor shall be responsible for compliance with NEMA and its Regulations. Non-compliance with the provisions of this section may lead to the imposition of penalties.
- ii) Section D of the Scope of Works contains provisions that regulate the contractor's construction methods for compliance with Government's initiatives towards black economic empowerment. It also contains information on criteria used in the procurement process. No separate payment mechanism has been made available for the contractor to allow for his compliance with relevant black economic empowerment legislation. The contractor shall include such costs in the existing payment items under section B1303 Payment. However, non-compliance with the provisions of this section may lead to the imposition of penalties.
- iii) Section E of the Scope of Works introduces the Occupational Health and Safety Act and Regulations. The Employers Health and Safety Specification as well as the baseline risk assessment is contained in Volume 3. A separate payment item has been included for the contractor to provide for his complete compliance with the Occupational Health and Safety Act, the Construction Regulations and general health and safety measures during the construction process.”

Add the following new sub-clauses:

“(d) Contractors ablution facilities

The Contractor shall, at each construction section, provide sufficient portable chemical latrine units. Furthermore the Contractor shall also provide a portable chemical latrine unit at each temporary traffic control facility. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the Engineer. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates tendered for the Contractor's time-related obligations.

(e) De-establishment from and re-establishment on site

In the event of construction work being forced to temporarily cease for whatever reasons beyond the control of the Employer, the Employer may, order the Contractor to suspend all work and de-establish from site until such time that clearance is obtained to re-establish on site at a later stage."

B1303 PAYMENT

B13.01 The contractor's general obligations:

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 13.7 and 13.8".

Delete the 11th paragraph commencing "The tendered rate per month for sub item 13.01(c)" and replace with:

"The tendered rate per month, for subitem 13.01 (c) represents full compensation for that part of the contractor's general obligations that are mainly a function of construction time. The tendered sum will be paid monthly, pro rata for parts of a month, from the Commencement Date (as defined in the Particular Conditions of Contract under Subclause 8.1) until the end of the period for completion of the works. There will be no payment for time related costs arising from extensions of time granted by the employer.

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 first 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."

Insert the following paragraph:

"Should the combined total tendered for subitems (a), (b), and (c) exceed 15 % of the tender sum (excluding CPA, contingencies and VAT), the tenderer shall state his reasons in writing for tendering in this manner. The tenderer's attention is drawn to Form B1: Contractor's Establishment on Site, (bound in this Volume), to be completed by the tenderer. If the tenderer should require additional compensation for his obligations under section 1300 (over and above the total tendered for item B13.01) by including such additional compensation in the tendered rates and/or lump sum of items in the Pricing Schedule, these items and the value of such additional compensation shall also be indicated in writing in a letter attached to Form B1."

SECTION 1500: ACCOMMODATION OF TRAFFIC

B1501 SCOPE

Add the following:

"It is a condition of this contract 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: Elsa Herbst Tel: (012) 334 4509 e-mail elsa.herbst@gpw.gov.za.

This section also covers the provision of additional information signs for motorists and the release of information to the media."

B1502 GENERAL REQUIREMENTS

(a) Safety

Add the following:

- (i) ~~"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.~~
- (ii) Traffic shall be accommodated with the least delay and discomfort to the public in accordance with the South African Road Traffic Signs Manual (SARTSM) and with the National Road Traffic Regulations, 2000.
- (iii) When instructed, the Contractor shall prepare the necessary press releases and/or public notification and the placement of advertisements in regional and local newspapers advising the public of imminent road construction. Copies prepared for press releases shall be submitted timeously to the Employer for consideration and approval.
- (iv) The following additional measures will apply to the accommodation of traffic:
- A maximum of one daytime lane closure (i.e. closing the climbing lane) will be permitted on the site at any one time,
 - Minimum lane width required is 3,2m;
- (v) The Contractor may not park any of his vehicles or construction equipment within 6m of the travelled lane edge outside normal working hours as defined in the General Conditions of Contract and Clause B1502(s).

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

(f) Approval of temporary deviations

Add the following:

"The Contractor's programme for the accommodation of traffic must be approved by the Engineer on site. The Engineer shall also have the power to stop any work at any time if the road signs are not compliant with the prescribed requirement and/or if the non-compliance is deemed to place the safety of the travelling public at risk.

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."

(i) Traffic Safety Officer

Add the following to the end of the second paragraph:

"The Contractor shall submit a CV of the candidate nominated safety officer to the Engineer for approval prior to his appointment as traffic safety officer. The traffic safety officer shall at all times be available to discuss road safety and traffic accommodation matters with the Engineer. The traffic safety officer shall be a dedicated official and shall not have production related responsibilities.

Before any new closures for works are erected, the Contractor shall ensure that all existing closures comply with the specifications."

Replace sub-sub-clauses (ii) and (iii) with the following:

- “(ii) Record on neat and dimensioned sketches and submits 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 to identifiable permanent features located along the site of the works.

These records shall 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 him before being submitted to the Engineer.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Engineer. This shall include the recording of 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 facility on the whole site of works three times each day by 9:30, 16:30 and 20:30. He shall record all irregularities discovered and the remedial action taken, and to sign off as correct.

The traffic safety officer shall submit to the Contractor by 10:00 each morning, a record of all matters pertinent to site safety and accommodation of traffic throughout the site of works on the previous day. He shall also record the daily labour returns of flagmen, stop/go and traffic signal control men employed.”

Add the following sub sub clauses:

- “(ix) The traffic safety officer shall be equipped with a cellular telephone and shall have one (1) 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 primary traffic safety vehicle shall be a light delivery vehicle and shall be equipped with a high visibility sign with the words TRAFFIC CONTROL in highly legible letters, not less than 150 mm high, and the sign shall be mounted on the vehicle. The proposed sign and letter dimensions shall be submitted to the Engineer for his approval.

The vehicle shall also be equipped with an amber-coloured flashing light of the rotating parabolic reflector type with a minimum intensity of 100 W. 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. The provision of the road safety vehicles, drivers, labourers and the cost of the cellular telephones shall be deemed to be included in the rates tendered for the Contractor's establishment on site.

- (x) The traffic safety officer shall ensure that all obstructions, other than approved temporary lane closures (as set out under Sub-Clause B1502(a)), related to his activities be removed from the carriageway before the end of the working day as applicable and instructed by the Engineer and that the roads are safe for traffic after working hours as defined in Clause B1502(n).
- (xi) The traffic safety officer shall, in addition to the duties listed in paragraph 1502 (i), also be responsible for the removal of broken down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.
- (xii) In the advent 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."

Add the following sub clauses:

"(j) Crossing the median

The contractor shall not permit any vehicle related to the construction to cross the median to make a "U" turn. The contractor will be solely responsible for ensuring that no vehicles make "U" turns. The contractor will be penalised at R 5,000.00 per occasion (refer to clause 1502(m)) if any contractors equipment / vehicles make "U" turns on the N3.

(k) 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.

(l) Use of the road by the public

The travelling public shall have right of way on public roads. The Contractor shall arrange his activities so as to bring about the least possible disruption to the traffic on the roads on which he works.

The Contractor's attention is drawn to the fact that he will be fully responsible for the safe and convenient accommodation of traffic at all times during the construction period. In this regard the Contractor is referred to the N3TC CRITICAL DATES YEAR PLANNER 2022 (see Part C4: Site information), in which traffic is categorized as A (extremely busy), B (very busy) and C (moderately busy). The critical dates for the remainder of the contract will be similar for the equivalent period and will be issued as they become available. The table below provides an explanation of the Category A, B, and C days, as well as the restriction with regards to working on the road and closures.

+CRITICAL DAYS EXPLANATION TABLE

Day	Dual Divided		Dual Undivided		Closure NB *	Closure SB *
	Work SB	Work NB	Work NB	Work SB		
A	No	No	No	No	No	No
As	No	No (permission required for special cases only)	No	No	Yes (1 lane only)	No
An	No (permission required for special cases only)	No	No	No	No	Yes (1 lane only)
B	No (permission required)	No (permission required)	No (permission required)	No (permission required)	Yes (1 lane only)	Yes (1 lane only)
Bn	No (permission required)	No (permission required)	No (permission required)	No (permission required)	Yes (1 lane only)	Yes (1 lane only)
Bs	No (permission required)	No (permission required)	No (permission required)	No (permission required)	Yes (1 lane only)	Yes (1 lane only)
C	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes (1 lane only)	Yes (1 lane only)
					* subject to Sec. 1500 conditions	

The Contractor shall table his proposed lane use scenario for all critical days marked on the Critical Date Planner, at least 14 days prior to such days. This proposal shall take the anticipated directional flow into account. N3TC will approve/amend/reject such proposal seven days prior to the said days.

Failure or refusal on the part of the Contractor to take the necessary steps to ensure the safety and convenience of the public in accordance with these specifications or as required by the Engineer or the traffic authorities shall be sufficient cause for the suspension of all work under this contract. The work will be closed down until all provisions as prescribed have been complied with to the satisfaction of the Engineer.

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

Failure or refusal on the part of the Contractor to take the necessary steps to ensure the safety and convenience of the public traffic, accommodation of traffic, equipment 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 deduct penalties as follows:

- (i) A fixed penalty of R5 000.00 per occurrence will 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 Part B of the Project Specifications.
- (ii) In addition, a time-related penalty of R500.00 per hour over and above the fixed penalty will be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after an instruction to this effect has been given by the Engineer. The Engineer's instruction will state the allowable time, which shall be the time in hours necessary 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.

(n) Hours of work

"Normal working hours" (referred to in Clause A6.5 of the FIDIC Conditions of Contract for Construction.) will, because of heavy peak hour traffic volumes, be restricted to between 30 minutes after sunrise and 30 minutes before sunset.

Programming for accommodation of traffic shall allow for the above restrictions.

(p) Moving and display of signs

The Contractor shall adhere strictly to the sign layout and spacing shown on the drawings or directed by the Engineer.

No deviation from the specified layouts will be allowed without the specific permission in writing from the Engineer.

(s) Parking of equipment on the site

The contractor shall ensure that the presence of his equipment on site does not affect the safety of the travelling public. On completion of a day's work, all plant that can travel unaided on public roads must be removed from the work area to the contractor's camp site, other plant difficult to move may be left on site with the following provisos:

- (i) When the work area is the slow lane and shoulder closed to traffic, the plant must be parked at least 6m away from the roadway used as a deviation.
- (ii) In other cases applicable normally to surfacing equipment, equipment shall preferably be parked at least 6m beyond the edge of the slow lane. If that is not possible, the equipment shall be protected by plastic New Jersey barriers filled to capacity with water. A leading taper of 1:15

shall apply. Under no circumstances may equipment be parked beyond the centre of the median, failing which barriers will be provided on both sides of the equipment.

Notwithstanding the above, equipment not required to work on site the following day must be removed to the contractors camp site.

No additional payment for the provision of protection of equipment will be measured."

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, flags on 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.

The Contractor shall indemnify the Employer against all proceedings, claims, actions, damages and costs which may arise from or be related to the absence or improper functioning or placement of road traffic signs, barricades, traffic-control facilities, channelisation devices and warning devices."

Add the following after the first paragraph:

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

Should the Contractor fail to respond to an instruction to re-erect a road sign within three hours or fail to comply with the requirements, penalties as detailed in paragraph B1502(m) will be applicable."

Replace the third paragraph with the following:

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

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

(b) Road signs and barricades

Add the following to the end of the first paragraph:

"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 (timber poles) as shown on the drawings. 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 hessian bag that shall be pulled over the sign in the form of a hood and fastened to the signposts. Plastic bags or other materials and fastened by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be included in the tendered rates of items B15.01.

(c) Channelisation devices and barricades

Add the following:

"The use of drums as channelisation devices shall not be permitted.

Delineators shall:

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

(e) Warning devices

Add the following:

" All Contractors' equipment and vehicles shall, before being allowed onto the site, obtain a clearance permit from the Engineer. If the Engineer withdraws the clearance certificate for reasons of non-conformance, that equipment shall be removed from site immediately.

The Contractor shall also ensure that all construction vehicles and any equipment that may travel on roads used by the public are equipped with the following:

- (i) A flashing amber LED light / light bar of an approved design. The flashing light / light bar shall be mounted so that it is clearly visible in daylight with 360 degree visibility. They shall be switched on continuously while the vehicles are in a work area, are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic.
- (ii) A warning sign with the wording CONSTRUCTION VEHICLE in retro-reflective Class 3 red letters at least 200mm high on a retro-reflective Class 3 white background which shall be mounted in a visible position at the rear of every vehicle or any item of construction plant which may travel on roads used by the public.
- (iii) For vehicles other than light motor vehicles, an automatic acoustic reversing alarm.

Flashing amber LED lights / light bars and the "CONSTRUCTION VEHICLE" signs on the Contractor's equipment shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

(h) Flagmen

Flagmen shall be provided where shown on the drawings or required by the specification. No flagman 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 600 mm. The flag shall be attached to a staff at least 1,0 m 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."

Payment for flagmen positioned as shown on the drawings and where otherwise ordered by the Engineer will be paid for separately."

Payment for flagmen who assist with the safe entry and exit of the Contractor's vehicles from closures or turning points, or guiding the traffic around the Contractor's plant will be deemed to be included in the Contractor's Safe Work Procedure and shall not be claimable under item B15.03 (a)."

B1517 MEASUREMENT AND PAYMENT

Replace item 15.01 with the following:

"Item		Unit
B15.01	Accommodating traffic and maintaining temporary deviations	Month

The unit of measurement shall be the month measured as per item 13.01(c).

The tendered rate shall include full compensation for the general obligations and incidental cost-items necessary for the accommodation of traffic and the construction and maintenance of diversions, including existing roads that are being used as diversions, during the construction period and during the maintenance period where such items of cost are not specially paid for under the pay items provided under this section in the Schedule of Quantities. It shall also include full compensation for the provision of all equipment, including tools, transport, labour, supervision, guards, and temporary traffic aids and all work, including all relocation and re-erection as may be required for the execution of all the works, required for the proper and safe accommodation of traffic as specified and as shown on the drawings. It shall also include, where necessary, communications equipment required to regulate traffic, for the provision and maintenance of temporary drainage, arranging for the moving of services, attending to traffic problems, complying with the requirements of the Road Signs Manual, and for providing temporary access to private properties.

The tendered rate shall also include full compensation for flagmen as required in accordance with the drawings. There will be no payment for time related costs arising from extensions of time granted by the employer.

The temporary traffic control facilities including all road signs will be supplied to the Contractor on the commencement date. The Contractor shall maintain and look after the signs provided and return the signs to N3TC on completion of the works. A penalty of R3,000.00 per sign shall

apply for each and every sign not returned or negligently damaged. N3TC acknowledges fair wear and tear.

Add the following pay item:

“Item	Unit
B15.03(n) The provision of all temporary traffic accommodation facilities	Provisional Sum (Prov. Sum)

A Provisional Sum has been provided to compensate the Contractor should the Engineer order the Contractor to provide certain additional signs. The Contractor shall procure and deliver to the site road signs only if ordered by the Engineer. The Contractor shall be compensated on a proven cost basis only for these signs ordered by the Engineer.

SECTION B1600: OVERHAUL

B1602 DEFINITIONS

(b) Overhaul

Replace the subclause with:

“All haul within the boundaries of the site will be regarded as free haul, and no payment will be made for overhaul on this contract unless provision is made therefore in specific items. Payment for overhaul will only be considered for material disposed of, or hauled beyond the limits of the site, in which case a free-haul distance of 1.0 km measured from the site boundaries will be applicable and shall be measured as the product of the volume of material hauled and the overhauled distance.

No overhaul will be payable for materials imported from commercial sources and from designated borrow pits / temporary stockpiles alongside the road.

No overhaul will be measured for any excavated material that is disposed of to spoil, unless specific provision is made for specific quantities.”

(d) Free-haul distance

Replace the last sentence with:

"This distance shall be the kilometre travelled on site in the case of all overhaul materials"

B1603: MEASUREMENT AND PAYMENT

Amend item 16.02 as follows:

“Item	Unit
B16.02 Overhaul on material hauled off site as instructed by the Engineer	Cubic metre-kilometre (m ³ -km)”

Delete the first paragraph of the first set of notes.

Where overhaul is applicable, the shortest possible haul distance shall apply, making use of the formal service turn around positions on the highway.

SERIES 2000: DRAINAGE

SECTION B2200: PREFABRICATED CULVERTS

B2209 DISPOSAL OF EXCAVATED MATERIAL

Delete the last paragraph and replace with:

“The material originating from the breaking out of concrete shall become the property of the contractor and the disposal thereof to an approved dump/spoil site shall be the responsibility of the Contractor. The cost of disposing the material, inclusive of loading and haulage, shall be deemed to be included in the tendered rate for the removing of existing concrete.

B2218 MEASUREMENT AND PAYMENT

Item	Unit
B22.12 Demolition and Removing to spoil existing concrete	
(b) Reinforced concrete	m ³

Delete the second paragraph and replace with:

“The tendered rates shall include full compensation for all demolition of concrete items and for loading, transporting and disposing of the products of demolition. All these materials shall be removed to approved dump/spoil sites.

SECTION B2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES AND CONCRETE LINING FOR OPEN DRAINS

B2301 SCOPE

Add the following to this clause:

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

B2307 MEASUREMENT AND PAYMENT

Item	Unit
B23.05 Inlet, outlet, transition and similar structures.....	number (No)
(a) Raising existing manholes to correct height and installing grid inlets. (Steel/concrete duragrid inlet supplied by the Employer)	

The unit of measurement shall be the number of completed units of each type of structure constructed, and payment shall include full compensation for all demolition of existing structures, new brickwork, reinforcing, formwork, concrete, excavation, trimming and backfilling.

SECTION 3300: MASS EARTHWORKS B3312 MEASUREMENT AND PAYMENT

Amend item 33.01 as follows:

Item	Unit
B33.01	
Cut and borrow to fill including free-haul up to 1.0km	
(a) Material in compacted layers 200mm and less	
(i) Compacted to 93% of modified AASHTO density.....	Cubic metre (m ³)

Amend the fourth paragraph to read:

“...the material for a free-haul distance of 1,0km; for preparing, shaping, watering...”

Add the following new pay item:

Item	Unit
B33.20	
Make up material for item B33.01 for adding extra material to layer (from commercial sources)	
(a) G7 material	Cubic metre (m ³)

The unit of measurement shall be the cubic metre of material added on the instruction of the Engineer, which quantity shall be determined by way of cross-sections, unless instructed by the Engineer that the quantity be taken as 70% of the loose volume measured in trucks.

The tendered rate shall include full compensation for procuring and adding the specified material to the layer, for spreading the material, for all other incidentals to add the material to the layer including an unlimited free-haul distance.

SECTION C: ENVIRONMENTAL MANAGEMENT PLAN

SCOPE OF WORKS

SECTION C: ENVIRONMENTAL MANAGEMENT PLAN

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MANAGEMENT OF CONTRACTOR ACTIVITIES DURING CONSTRUCTION

(a) Overall Purpose of this Environmental Management Plan (EMP)

In order to ensure a holistic approach to the management of environmental impacts during construction, this document sets out the environmental specifications which will be applicable.

This Environmental Management Plan (EMP) outlines the environmental specifications which will be required to be implemented and adhered to by construction teams. The EMP has as its basis general mitigation measures for implementation on site. However, where necessary, these measures have been expanded upon and additional issues have been addressed in order to ensure that all environmental aspects are appropriately considered and monitored.

This EMP will be amended to comply with the environmental authorisation, if issued for a specific contract. This EMP is a dynamic document and shall be updated when required.

(b) Objectives of the EMP

The EMP has the following objectives:

- To state the standards and guidelines which the Contractor will be required to adhere to in terms of environmental legislation;
- To set out the mitigation measures and environmental specifications which the Contractor will be required to implement in order to minimise the extent of environmental impacts, and where possible to improve the condition of the environment;
- To provide guidance regarding the method statements which the Contractor will be required to compile and implement to achieve the environmental specifications;
- To define corrective actions which the Contractor must take in the event of non-compliance with the specifications of this EMP;
- To prevent long-term or permanent environmental degradation.

(c) Implementation and Operation

(i) Roles and Responsibilities

N3 Toll Concessions (Pty) Ltd (N3TC), hereinafter referred to as “The Employer”, is, in terms of the Concession Contract responsible for monitoring the EMP. The appointed contractor for a construction project will, in terms of the Construction Contract, be responsible for implementation of the mitigation measures in the EMP.

(j) N3TC’s Environmental Representative

The Employers Environmental representative, will be responsible for overseeing the overall implementation of the EMP in accordance with the requirements of the Contract and the Project Environmental Authorisation.

(k) (iii) Site Environmental Control Officer (SECO)

The Contractor shall be responsible, at its cost, for the appointment of a Site Environmental Control Officer (SECO) for the duration of the contract.

The SECO will oversee the construction phases of the project and will ensure that all environmental specifications and EMP requirements are met at all times. The SECO will report to the Engineer in an advising capacity.

The SECO will be responsible for monitoring, reviewing and verifying the Contractor's compliance with the EMP. The SECO's duties in this regard will include, inter alia, the following:

- Ensuring that all the Project Environmental Authorisations, Permits and Licenses required in terms of the applicable legislation, have been obtained prior to construction commencing;
- Monitoring and verifying that the EMP and Project Environmental Authorisation are adhered to at all times and taking action if specifications are not followed;
- Monitoring and verifying that environmental impacts are kept to a minimum;
- Assisting the Contractor in finding environmentally responsible solutions to problems;
- Keeping accurate and detailed records of all activities on site;
- Inspecting the site and surrounding areas on a regular basis with regard to compliance with the EMP and Project Environmental Authorisation;
- Monitoring the Contractor's requirement to provide environmental awareness training for all new personnel on site;
- Ensuring that activities on site comply with all relevant environmental legislation;
- Advising the Engineer on any non-compliance with regard to EMP.
- Undertaking a continual internal review of the EMP and submitting any changes to The Employer.
- Keeping a register of complaints on site and recording community comments and issues, and the actions taken in response to these complaints.

In order to fulfil the above duties the SECO must have:

- A good working knowledge of all the relevant environmental policies, legislation, guidelines and standards;
- The ability to conduct inspections and to produce thorough, readable and informative reports;
- The ability to manage public communication and complaints, if directed to do so by the Engineer;
- The ability to think holistically about the structure, functioning and performance of environmental systems;
- Proven competence in the application of the following integrated environmental management tools:
 - Environmental Impact Assessments;
 - EMPs;
 - Environmental auditing;
 - Mitigation and optimisation of impacts;
 - Monitoring and evaluation of impacts;
 - Environmental Management Systems (EMS).

The SECO must be fully conversant with the EIA and EMP for the proposed project and all relevant environmental legislation. The Employer shall have the authority to instruct the Contractor to replace the SECO if, in their opinion, the appointed person is not fulfilling his/her duties in terms of the requirements of the EMP.

Such instruction will be in writing and will clearly set out the reasons why a replacement is required and the timeframe for such replacement.

(I) (iv) External Environmental Auditor

An external environmental auditor will be appointed by The Employer to ensure Contractor compliance to the EMP. The Employer and the external auditor will jointly determine the intervals at which environmental audits should be undertaken. The environmental audit programme should at least include the following:

- Comprehensive environmental audits to be undertaken periodically (at least every quarter) during the construction phase, to verify compliance with the EMP, environmental authorisation and construction contract, and all applicable environmental legislation. An audit report shall contain recommendations on environmental management activities which need to be implemented.
- A comprehensive environmental audit to be undertaken at the completion of the construction phase, to verify compliance with the EMP and all applicable environmental legislation. The resulting audit report shall contain recommendations on environmental management activities which need to be implemented during the maintenance phase. The external auditor will report to The Employer.

(d) Special conditions

The Contractor shall strictly comply with the requirements of Annexure II of the Concession Contract in relation to the Environmental Requirements. The Contractor shall strictly comply with the criteria as set out in the Project Record of Decision (RoD) as well as this Environmental Management Plan (EMP).

The Contractor shall be responsible for obtaining all necessary environmental Permits and Authorizations for the Works including Permits and Authorizations required pursuant to National and Provincial laws and Regulations and local authority by-laws. The Contractor shall note that The Employer would only be responsible for obtaining the above if a specific agreement was reached with the Contractor.

Where The Employer has obtained the statutory required Permits and Authorizations, the Contractor shall take note and implement any condition or requirement specified in such Permits or Authorizations, over and above the requirements of this EMP.

For all materials used by the Contractor during the execution of his work that are sourced from a commercial process or activity that requires Environmental Permits or Authorizations, a copy of the relevant Permit or Authorization should be obtained from the commercial source and should be forwarded to The Employer.

The Contractor shall at all times and in accordance with The Employer's Environmental Representative instructions, conduct his activities and those of his employees, in an environmentally sound and acceptable manner. It is the Contractor's responsibility to agree on the environmental condition of any site that the Contractor occupies or utilises, the responsibility for all environmental degrading activities and incidents shall vest with the Contractor.

The Employer, together with the Contractor, shall carry out regular environmental inspections of the areas under the Contractor's care. If following inspection, any failure or pollution of the environment relating to acts of the Contractor, his employees, sub-contractors or associated plant and equipment, is identified during this inspection, the Contractor shall be instructed in writing to undertake proper mitigation measures and rehabilitation. If the Contractor fails to comply with such written instruction within 7 (seven) days of receipt, The Employer shall immediately remedy such failure or pollution at the cost of the Contractor.

Any serious environmental pollution or disaster, such as, but not limited to pollution of ground water, surface water, sensitive ecological areas or declared heritage sites, shall entitle The Employer to act immediately to mitigate such pollution or disaster, using whatever experts, contractors or equipment that may be required. All costs associated with such action will be recovered from the Contractor.

The Contractor is required to certify that the works and sites utilised in the course of the Works has been maintained and rehabilitated in an environmentally sensitive manner. The Contractor shall, prior to the release of the final retention monies, submit such certification to The Employer, confirming environmental compliance. A separate letter will also be submitted indemnifying The Employer from any latent environmental defect or environmental pollution that may occur in consequence of the Contractor's actions or works.

(e) Management and Mitigation plans

The management of all negative environmental impacts caused by the Contractor appointed for the construction is dealt with through specific management and mitigation plans. Each environmental component that requires management and mitigation has been identified.

The specific and detailed management and mitigation plans for the Contractor's activities are included in this document. This allows for allocating management and mitigation plans to relevant and specific activities. The management and mitigation plans, listed in table C1, are applicable to all Contractors (including its sub-contractors).

Table C.1: List of Management and Mitigation Plans

Annexure Number	Management & Mitigation Plan
<u>C1</u>	Construction and Site Camps
<u>C2</u>	Protection of Heritage Resources
<u>C3</u>	Protection of Heritage Resources
<u>C4</u>	Noise Management
<u>C5</u>	Soil Management
<u>C6</u>	Air Quality
<u>C7</u>	Water Management
<u>C8</u>	Waste Management
<u>C9</u>	Ecological Management
<u>C10</u>	Environmental Awareness Training

C.1: CONSTRUCTION AND SITE CAMPS

(a) Purpose

To minimize impacts by the Contractor associated with the establishment and operation of construction and site camps and workshops.

(b) Components

The plan consists of the following components:

- a. Location of Construction and Camp Sites
- b. Construction Camp Restrictions and Restraints
- c. Ablution Facilities
- d. Heating and Cooking Facilities
- e. Water for Human Consumption
- f. Eating Areas
- g. Fencing and No-Go Areas
- h. Fires.

(m) (i) Location of Construction and Camp Sites

Objectives

To ensure that the Contractor establish his construction camps, offices, workshops, staff accommodation, production plants, storage and stockpiling areas and testing facilities on the site in a manner that does not adversely affect the environment.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the construction camps.

Methods Statements

- If Construction and Camp sites are located outside of the road reserve the necessary landowner approval shall be obtained and provided to The Employer.
- The Contractor shall produce a site plan showing the site layout, including the positions of all buildings, vehicle wash areas, fuel storage areas, access roads and other infrastructure prior to establishment of the site for approval by The Employer.
- Only designated areas, as indicated on the layout plan shall be used for the storage of materials, machinery, and equipment, and for site offices and accommodation facilities.
- The site offices and accommodation units shall not be sited in close proximity to steep areas, as this will increase the potential for soil erosion.
- If the site traverses watercourses, streams and rivers, the offices (and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles) shall be located as far away as possible from any watercourse, and downstream of water bodies.
- The Contractor shall establish these facilities in accordance with the design criteria and approved layout plan and in a manner that does not adversely affect the environment. Camps, offices, workshops, staff accommodation and testing facilities shall be maintained in an orderly and tidy condition.
- Throughout the period of construction, the Contractor shall restrict all activities to within the designated areas as indicated on the approved layout plan.

- Detailed colour photographs shall be taken by the Contractor of the proposed sites before any clearing commences. These records shall be kept until after rehabilitation of the site.
- The placement of buildings and equipment shall be done to minimise the footprint and visual impact of the sites – where applicable the roofing cladding type and colour will be selected to minimise reflection as this could increase the visual impact.
- Any large indigenous trees within the confines of the site that can be retained shall be adequately protected and indicated on the construction layout plans.
- Demarcation of the site, vegetation and topsoil removal shall occur prior to any other construction activities commencing on site.
- The Construction and Camp sites shall be neat and acceptable to the travelling motorist passing these areas next to the road – specifically when tents are utilised.

(n) (ii) Construction Camp Restrictions and Restraints

Objectives

- Specify restrictions to be adhered to at all Construction and Camp sites.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

The following actions shall be prohibited:

- The use of rivers and streams for washing of clothes and kitchen utensils;
- The use of welding equipment, oxy-acetylene torches and other bare flames where fires constitute a hazard;
- Indiscriminate disposal of rubbish or construction wastes or rubble;
- Littering of the site;
- Poaching of any description and the setting of traps;
- Pit latrines;
- Burning or burying of waste and/or cleared vegetation;
- Informal housing arrangements;
- Prostitution based from the construction camps;
- Selling of alcohol or drugs.

(o) (iii) Ablution Facilities

Objectives

To make provision for adequate and sufficient ablution facilities during the contract period.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

- The Contractor shall provide suitable sanitary arrangements at Construction and Camp sites and along the work site for its employees. These facilities must be easily accessible (within 500m from any point of work).

- Toilets shall be provided at the preferred ratio of 1 toilet per 15 workers.
- Performing ablutions outside the toilet facilities is strictly prohibited and the use of the veld for this purpose shall not, under any circumstances, be allowed.
- The toilets shall be secured and provided with an external closing mechanism to prevent toilet paper from being blown out.
- Toilets will not be placed in areas susceptible to standing or flowing water and will be sited away from any identified environmentally sensitive areas.
- Toilets shall not be placed inside the 1:100 year flood line of any drainage line.
- The Contractor shall ensure that the entrances to toilets are adequately screened from public view.
- Toilets will be secured in order to prevent them from blowing over.
- Only approved chemical, digester type or suction pit toilets will be used and will be emptied as required where reticulation systems are not available.
- The Contractors shall ensure that there is no spillage when the chemical or suction pit toilets are cleaned or during normal operation and that the contents are properly removed from site.

(p) (iv) Heating and Cooking Facilities

Objectives

To make provision for cooking and heating needs during the contract period.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

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

(q) (v) Water for Human Consumption

Objectives

To ensure that a potable and sufficient water source is supplied for all Construction and Camp sites.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

- Water for human consumption shall be available at all Construction and Camp sites.

(r) (vi) Eating Areas

Objectives

To ensure that designated eating areas are provided for all Construction and Camp sites.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

- The Contractor shall provide designated eating areas for its employees.
- The Contractor shall provide the necessary waste bins at these areas that will be emptied on a regular basis. The collected waste shall be stored in a central waste area to ensure ease of removal or taken to an approved waste disposal site.

(s) (vii) Fencing and No-Go Areas**Objectives**

To ensure that all sites are adequately fenced and that No-Go areas are clearly demarcated.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

- The Contractor shall make provision for appropriate fencing to be erected along the perimeter of construction areas, where appropriate. No-go areas will also be demarcated by fencing to ensure that personnel, machinery, equipment or material do not impact these areas.
- No activities shall take place beyond the demarcated areas. Fences shall be erected according to an agreed sequence and time programme, and co-ordinated with the arrival of equipment, staff and materials onto site.
- The fencing will not be moved or removed, at any stage of the project. The Contractor shall ensure that any fencing damaged during construction activities shall be replaced immediately and at his expense.

(t) (viii) Fires**Objectives**

To ensure that fires are adequately controlled during the construction period.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding the Construction and Camp sites.

Method Statements

- The Contractor shall take all reasonable steps to avoid any fires.
- Open fires shall only be permitted at Construction and Camp sites in facilities or equipment specially constructed for this purpose and made available by the Contractor to its employees.
- Prior to the commencement of construction activities, the Contractor shall ascertain the fire requirements of the local council and where required develop a contingency plan in case of a fire.
- The Contractor shall ensure that there is basic fire-fighting equipment on site at all times. This equipment shall include fire extinguishers and beaters and which shall be regularly serviced and maintained as required.

- The Contractor shall pay any costs incurred by organizations called to put out fires started by any employee of the Contractor or any of its Sub-Contractors.
- The Contractor shall pay the costs incurred to reinstate burnt areas as deemed necessary.
- The Contractor shall take all reasonable steps to extinguish any fires where other individuals may have started a fire, either intentionally or unintentionally.
- The contractor shall notify The Employer immediately of any fires within the contract area.

C.2: CONSTRUCTION ACTIVITIES

(a) Purpose

To minimize impacts by the Construction Activities associated with the Construction phase of the project.

(b) Components

The plan consists of the following components:

- a. Workshops and Fuel Storing Facilities
- b. Bitumen Waste Products
- c. Recycled Asphalt Product (RAP)
- d. Preparation and Cleaning of Machines, Trucks and Equipment
- e. Bitumen Coating of Chips.

(u) (i) Workshops and Fuel Storing Facilities

Objectives

To ensure that the Contractor establish his workshops on the site in a manner that does not adversely affect the environment.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Minimise complaints received regarding workshops.

Method Statements

- The necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the Contractor. This includes the provision of safety clothes and other personal protective equipment used or worn by the staff whose duty it is to manage and maintain the supplier's plant, machinery and equipment.
- Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers.
- The Contractor shall provide proof to the Engineer that relevant authorisation to store such substances has been obtained from the relevant authority.
- An adequate bund wall (110% volume) shall be provided for generators and fuel, diesel and bituminous products storage areas to accommodate any spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. The bunding shall be undertaken as per the requirements of SABS 089:1999 Part 1.
- Bunding of products with high viscosity can be done with properly packed sand bag walls (110% volume) around the base of the container and with a plastic base liner covered with sand.
- Fuel tanks shall be located at least 3.5m from buildings boundaries and any other combustible or flammable material.

- The Contractor shall ensure that an emergency plan is in place for implementation in case of leakage or spillage of fuel or hazardous material which can be harmful to an individual or the environment.
- A hazardous spillage procedure shall be developed.
- Spill kits shall be appropriately placed at identified risk areas.
- All staff shall receive training in the use of a hazardous spillage kit use.
- Hazardous spill kits shall be kept in stock to replace spent spill kits immediately.
- Hazardous waste shall be placed in separate containers clearly marked for the purpose.
- See Section C – C.7 – Waste Management, Management and Mitigation Plan, sub section (e) Generation and Disposal of Hazardous Waste for dealing with Hazardous Waste.
- Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and recycled.
- Water generated inside the workshop shall pass through an oil trap to separate the water and oil. Oils collected in this manner, shall be retained in a safe holding tank and recycled.
- Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for recycling.
- All used filter materials shall be stored in a secure bin for disposal as hazardous waste.

(v) **(ii) Bitumen waste products**

Objectives

To ensure that bitumen waste products generated during the Construction phase is properly managed and disposed of.

Targets

- Compliance to all Statutory and RoD requirements.

Method Statements

- The spoiling and uncontrolled disposal of bituminous products shall be prohibited. Unused or rejected bituminous products will be removed from site and taken to the supplier's production plant as the first option. If not possible the bituminous products shall be disposed of as hazardous waste.
- All bituminous products shall be stored in properly designed bunded areas. Any leakages into bunded areas would, as a first option, be recovered and re-used. If re-use is not possible due to contamination, the bituminous products shall be recycled. Disposal as hazardous waste is the last option.
- Any bituminous products recovered from cleaning pits or washout areas shall be recovered and re-used as a first option. If re-use is not possible due to contamination, the bituminous products shall be recycled. Disposed as hazardous waste is the last option.
- Paper, plastic or any other material that might come into contact with bituminous products during nozzle and pipeline cleaning shall be disposed of as hazardous waste.

(w) **(iii) Recycled Asphalt Product (RAP)**

Objectives

To ensure that Recycled Asphalt Product (RAP) generated during the Construction phase is properly managed.

Targets

- Compliance to all Statutory and RoD requirements.

Method Statements

- RAP shall at all times be treated as a potential hazardous waste.
- Stockpiling of RAP material for later use shall comply to the requirements set for stockpiling as set in Section C – C.4 Material Management – Management and Mitigation Plan (Stockpiling).
- If RAP material is made available to private individuals or organizations for recycling purposes, a detailed log shall be kept of the details of the receiver, the volume taken and the end use of the RAP. The receiver shall sign an indemnification on receiving the RAP.
- All RAP material placed in stockpile for later use shall be used within 24 months from date of milling.

(x) (iv) Preparation and Cleaning of Machines, Trucks and Equipment

Objectives

To ensure appropriate management of the preparation and cleaning of machines, trucks and equipment normally associated in the road construction industry, during the Construction phase.

Targets

- Compliance to all statutory, RoD and permit requirements.

Method Statements

- All equipment shall be in good working order.
- In order to reduce the generated noise levels, adequate noise mufflers and proper exhaust systems shall be fitted to all noise generating machines, trucks and equipment.
- Concrete trucks shall only be washed in dedicated washing pit areas. The resulting concrete waste shall be allowed to solidify and then be recycled or disposed of.
- The cleaning of nozzles and piping of all machines and equipment using bituminous products shall be done in a dedicated pit or wash area. The pit or wash area shall not be permeable and retain all bitumen and other hydrocarbon products.
- The pit or wash area shall be equipped with a holding tank where all free product will be stored for re-use or recycling. Solid bituminous waste shall be recycled as far as possible or alternatively disposed of as hazardous waste.
- During emergency cleaning on-site, paper plastic or any other material shall be used to prevent the bituminous from contaminating soils or water.
- Paper, plastic or any other material that might be used and come into contact with bituminous products during nozzle and pipeline cleaning shall be disposed of as hazardous waste.

(y) (v) Bitumen Coating of Chips

Objectives

To ensure appropriate management of coating chips with bitumen, during the Construction phase.

Targets

- Compliance to all statutory, RoD and permit requirements.

Method Statements

- The bitumen coating of chips shall take place as far as possible inside the road reserve.
- Specific landowner approval is required if bitumen coating of chips takes place outside of the road reserve.
- Bitumen storage shall be as specified in section (a) above.
- Topsoil shall be removed in preparation of the site where the bitumen coating of chips will take place.
- A cover-layer of clean chips shall be placed on the ground to absorb any excess bitumen during the mixing process.
- Stockpiles of bitumen coated chips shall not be positioned within the 1:100 year flood line of any drainage line.
- Stockpiles of bitumen coated chips shall not be positioned in any wetland or on top of hydric or saturated soils.
- Stockpiles of bitumen coated chips shall be placed as to prevent storm water sheet drainage from running through the stockpiles.
- Stockpiles shall be covered during periods of high rainfall.
- Bitumen covering of excess chips shall not be allowed. Only cover as much as is needed.

C.3: PROTECTION OF HERITAGE RESOURCES

(a) Purpose

The purpose of the heritage resources management and mitigation plan is to ensure that heritage sites, structures older than 60 years, and archaeological or palaeontological sites, either inside or in close proximity of the road reserve and working site, that are protected through law, are identified and any potential negative impacts on these sites avoided or mitigated.

(b) Components

The plan is made up of the following components:

- a. Protected heritage resources
- b. Chance heritage finds

(c) Management and Mitigation

(z) (i) Protected heritage resources

Objectives

To identify and document in detail the remains of man-made structures uncovered before construction activities are initiated on-site.

Targets

- Identify and document all protected heritage resources as defined in the National Heritage Resources Act (1999) before construction is initiated.
- All construction works close to any identified heritage resources would have to be carried out under the frequent on-site supervision of competent heritage practitioners, and if required by the South African Heritage Resources Agency (SAHRA). A representative from SAHRA must also be a part of the supervision team – SAHRA will have to ensure that this representative is available as and when required as per the construction program.

Method Statements

- Should any archaeological, palaeontological, historic or cultural resource sites (including graves) be unexpectedly uncovered during construction, operation or maintenance work in the area, all work shall cease and a specialist should be consulted regarding remedial action and whether a permit is required in terms of the National Heritage Resources Act (No 25 of 1999).
- Under no circumstances shall artefacts or relics of historic value be removed, destroyed or interfered with by Contractors and their employees.
- Graves and other heritage sites within the road reserve and in close proximity to the contractor's work area shall be fenced.
- Where required the Contractor is responsible to align on-site supervision and inspections by specialists or SAHRA with his construction program.

(aa) (ii) Chance Heritage Finds

Objectives

To effectively manage the discovery of chance heritage finds and the disturbance thereof and how to address same during the course of construction.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Any structure, object, remain(s) or deposit(s) that is of demonstrable or suspected to be of an archaeological or historical nature whether *in situ* or not, shall be reported to the relevant Authorities.
- Reporting of any chance heritage find shall be done within 24 hours of its discovery.

Method Statements

- Employees and sub-Contractors shall receive training from the SECO regarding chance heritage finds.
- All construction works shall be carried out with sensitivity to the possible unearthing of heritage materials or objects, artefacts or graves.
- In the event of the discovery of heritage materials or objects, artefacts or graves, relevant activities in the specific area of the find shall cease pending further investigation.
- Nothing may be moved or removed from site and the Contractor shall immediately notify a heritage practitioner to consult with SAHRA.
- A Heritage Practitioner is to assess the site to establish its status and to categorise it as either:
 - (A): Heritage sites, structures older than 60 years and archaeological or palaeontological sites or
 - (B): Grave(s) or human remains.

C.4: NOISE MANAGEMENT

(a) Purpose

To ensure that noise and vibration from construction activities does not exceed the relevant limits or result in a nuisance or disturbance.

(b) Components

The plan is made up of the following components:

- a. General noise mitigation
- b. Road Construction Activities and Equipment
- c. Blasting and Vibration.

(c) Management and Mitigation

Noise sensitive areas include: Outdoor – parks; historic sites; amphitheatres; recreation areas; playgrounds; cemeteries; Residences – single & multifamily residences (apartment buildings, housing complexes and retirement homes); offices indoor – places of worship; educational activities; crèches; hospitals/hospices; concert halls / auditoriums / theatres; libraries; recording/broadcasting studios; museums; hotels/B&B establishments, during hours of operation.

(bb) (i) General noise mitigation

Objectives

To ensure that noise from general construction activities does not exceed relevant limits and /or result in a nuisance or disturbance.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Compliance to SANS 10103:2004

Method Statements

- Liaise with local residents how to best minimise construction noise impacts in the vicinity of noise sensitive areas, where there is a probability of high noise levels being generated.
- Local residents shall be kept informed of the nature and duration of intended activities prior to commencement and kept updated as to changes in the schedule or management and mitigation plan as the work progresses.
- Site offices and equipment compounds shall be sited away from residences where possible.
- Hoardings and/or other noise barriers shall be erected around critical work areas to act as acoustical barriers and minimise noise emissions to the surrounding areas.
- Enclose noisy activities where possible if the noise is above accepted limits.
- Transportable noise screens shall be placed between noise sources and noise sensitive areas for the duration of specific noisy construction activities e.g. between a compressor unit and an educational facility.
- Where possible, noisy activities shall be scheduled to occur at the same time, so as to minimise the total duration of the noise impacts.
- Less noisy construction methods and technology shall be favoured on site with the aim of minimising the severity of total noise impact.

- Noisy fixed facilities shall be located well away from noise sensitive areas.
- In cases where noisy activities and equipment (such as piling, cranes, compressors, demolition, blasting, and implosions,) create unacceptable noise impacts at the closest sensitive receiver, noise protection at the receiver shall be implemented.
- Maximum noise levels at any sensitive receiver shall not exceed 85dBA.

(cc) (ii) Road Construction Activities and Equipment

Objectives

To ensure that noise from road construction activities and equipment does not exceed the relevant limits and /or result in a nuisance or disturbance.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Compliance to SANS 10103:2004.

Method Statements

- Modern low noise emission vehicles and equipment shall be favoured on site. In noise sensitive areas the details of all construction machinery and vehicles must be determined prior to construction in order to identify potentially noisy machinery and to seek possible alternatives. These details will include the manufacturer, type and noise emission data of each machinery/vehicle and how many will be used at any time along each section of the route. Where this information is not available, noise measurements must be conducted prior to use of such machinery or vehicles.
- All noise-making equipment shall be turned off when not in use.
- All equipment shall be kept in good working order.
- All equipment shall be operated within specifications and capacity (i.e. do not overload machines).
- The Contractor shall familiarise himself with, and adhere to, any local bylaws and regulations regarding the generation of noise.
- Heavy vehicles should be routed away from noise sensitive areas wherever possible.
- Construction vehicles shall not exceed the defined speed limits for any area.
- Maximum noise levels at any sensitive receiver shall not exceed 85dBA.

(dd) (iii) Blasting and Vibration

Objectives

To ensure that noise and vibration from blasting does not exceed the relevant limits and /or result in a nuisance or disturbance.

Targets

- Compliance to all statutory, RoD and permit requirements.
- Compliance to SANS 10103:2004.

Method Statements

- All blasting shall be undertaken under strict supervision of a registered specialist blaster.

- The size of explosive charges used for blasting shall be optimised so as to balance breaking capability against minimising any vibration impact and fly rock.
- No damage to neighbouring properties shall be allowed – detailed incident records shall be kept for reference purposes.
- Pre-blast photographic records of neighbouring buildings shall be prepared where these are in close proximity of blasting activities.
- Peak Particle Velocity at residential buildings shall not exceed 25mm/s.
- Peak Particle Velocity at reinforced Concrete Structures shall not exceed 51mm/s.
- Peak Particle Velocity near Eskom power lines shall meet the Eskom specifications.

C.5: SOIL MANAGEMENT

(a) Purpose

The purpose of the soil management plan is to ensure that all topsoil stripping, stockpiling and replacement operations and spoil management will be undertaken in a manner that limits impacts emanating from the operations on the surrounding communities and natural environment.

(b) Components

The plan is made up of the following components:

- d. Topsoil storage
- e. Spoil material
- f. Borrow pits and quarries
- g. Stockpiles.

(c) Management and Mitigation

Topsoil is considered to be the natural soil covering that supports plant growth and shall include all organic matter. The thickness of the topsoil may vary from site to site, and must be determined on a site-specific basis and removed accordingly. The areas to be cleared of topsoil shall also include the storage areas and site camps.

(ee) (i) Topsoil storage

Objectives

To ensure that wherever topsoil is present is removed and conserved for re-use.

Targets

- Most (preferably more than 95%) of recovered topsoil should be re-used.

Method Statements

- The ECO shall evaluate the topsoil conditions on site and determine the thickness of topsoil to be stripped.
- Strip topsoil to the required depth at all sites before any construction activities commence.
- All topsoil stripping, stockpiling and replacement operations shall be undertaken in a manner that limits impacts emanating from the operations on the surrounding communities and the environment.
- Topsoil stripping and handling in windy or excessively rainy conditions shall be avoided.
- Topsoil shall be handled twice only – once to strip and stockpile, and secondly to replace, level, shape and scarify.
- All topsoil stockpiles shall be sufficiently located away from seepage zones, flood lines, water courses and other ecological sensitive areas.
- The topsoil stockpiles must be shaped and sited in such a way that they do not interfere with the flow of water to prevent damming and erosion of the stockpiles themselves or the surrounding area.
- Topsoil stockpiles shall not be higher than 2 meters and should stockpiles require to exceed this limit, measures must be introduced to ensure the employees and/or the public are not at a safety

risk.

- Topsoil stockpiles shall not have slopes steeper than 1 vertical to 2, 5 horizontal.
- Topsoil stockpiles shall be utilised in rehabilitation efforts as soon as possible and should preferably not be stockpiled for longer than 6 months.
- Topsoil stockpiles older than 6 months may need to be enriched or upgraded with fertiliser prior to use to ensure its effectiveness.
- Topsoil stockpiles shall be protected with appropriate soil conservation measures from wind and water erosion.
- No vehicles shall be allowed on the topsoil stockpiles.
- The stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, waste or any other material, which may later inhibit the growth of vegetation.
- Topsoil stripped from different soil zones shall be stockpiled separately and be clearly distinguishable.
- Topsoil stockpiles must be cleared of any alien vegetation by means of appropriate methods.
- Topsoil shall not be compacted in any way, nor shall any object or material be placed or stockpiled on it.

(ff) (ii) Spoil material

Objectives

To ensure proper spoil management during the construction phase.

Targets

- Position spoil sites such that it will have the least visual impact.
- To prevent runoff of sediment-laden water from spoil sites.

Method Statements

- The Contractor shall be responsible for the safe location, operation, maintenance and closure of any spoil site used during the contract period. This will include existing spoil sites that are being re-utilised.
- If spoiling takes place outside of the road reserve, the affected landowner must be consulted and shall give written consent for the location of spoil sites on his property.
- Spoil dumps shall be located away from seepage zones, flood lines, water courses and other ecologically sensitive areas and at least 50 metres above the 1:100 year flood line of streams and rivers.
- A photographic record must be kept of all spoil sites for monitoring purposes, and must include photographs of before the site is used, as well as after re-vegetation.
- Spoil dumps shall not have slopes steeper than 1 vertical to 2.5 horizontal.
- Final shaping, top soiling and re-vegetation shall be done as soon as possible after the stockpile has been established.
- Spoil dumps shall be protected with appropriate soil conservation measures from wind and water erosion.
- Spoil handling and dumping shall be avoided in windy or excessively rainy conditions.
- No waste, such as hazardous waste, construction waste, building rubble and domestic waste shall be allowed on the spoil stockpiles.
- Where possible spoil material shall be used to rehabilitate borrow pits to reduce the total volume of spoil material in spoil dumps and to improve borrow pit rehabilitation (borrow pits to be filled

with spoil material).

- Vehicles transporting spoil material shall be routed away from sensitive areas.
- Vehicles transporting spoil material shall be covered or soil sprayed with water before leaving site if transportation result in excessive dust.
- No vehicles shall be allowed on any re-vegetated spoil dumps.
- Spoil dumps shall be cleared of any alien vegetation by means of appropriate methods.

(gg) (iii) Borrow pits and quarries

Objectives

To ensure proper borrow pit and quarry management during the construction phase.

Targets

- No borrow pits shall be opened in ecologically sensitive areas.
- Borrow pits shall be licensed or authorised before opening.

Method Statements

- All borrow pits and quarries shall be authorised in terms of the Minerals Act (No.50 of 1991) and the Minerals and Petroleum Resources Development Act (No.28 of 2002) and under no circumstances shall excavations or blasting commence unless authorisations or exemptions are in place.
- Prior to establishing and opening any borrow pits and quarries, a search and rescue operation for bulbs and other indigenous plants of value shall be done.
- All borrow pits and quarries shall be clearly indicated on site plans and will be placed where suitable material can be obtained, but outside of ecologically sensitive areas and as far as possible from built-up areas.
- Excavations, drilling and earthworks shall be done in such a way as to minimise the extent of any impacts on neighbouring communities, the general public or the environment, with specific reference to air pollution and noise impacts.
- Rehabilitation of the borrow pits and quarries shall be done in accordance with the rehabilitation plan, forming part of the approved mining license.
- All borrow pits and quarries shall be fenced.
- On completion of the borrow pit/quarry's rehabilitation work, a closure certificate shall be obtain.
- If material is purchased form a private individual or commercial quarry, the Contractor shall ensure that the required mining permits are in the possession of the owner of the material.
- The conditions imposed by the relevant approved mining license are legally binding on the Contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the approved mining license and these specifications, the former shall apply.

(hh) (iv) Stockpiles

Objectives

To ensure appropriate stockpile management during the construction period.

Targets

- Compliance to all statutory, RoD and permit requirements.

Method Statements

- If stockpiling is undertaken outside of the road reserve, the affected landowner must be consulted and shall give written consent for the location of spoil sites on his property.
- The areas chosen for any temporary stockpiling shall have no naturally occurring indigenous trees and shrubs present that may be damaged during stockpiling operations.
- Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the Contractor shall at all times ensure that they are:
 - Positioned and sloped to create the least visual impact;
 - Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment;
 - Not positioned within 50 meters of the 1:100 year flood line of any drainage line;
 - Not positioned in any wetland or on top of hydric or saturated soils;
 - Positioned as to prevent any storm water sheet flow from flowing through the stockpile; and,
 - Kept free from all alien/undesirable vegetation.
- After the stockpiled material has been removed, the site shall be re-instated to its original condition.

C.6: AIR QUALITY MANAGEMENT

(a) Purpose

Earthworks undertaken during construction have the potential to create a short-term air quality nuisance unless properly managed. This may impact surrounding residents, construction workers and nearby vegetation. Air quality may be affected by the following activities:

- earthworks associated with construction;
- spillage or storage of soil and other materials;
- vehicle movements along paved and unpaved roads and
- Asphalt or other mixing plants.

Certain areas along the alignment, such as un-vegetated areas, waste stockpiles, etc. will be susceptible to dust generation, especially in the dry season – this is of particular concern if in proximity to residential areas, educational facilities or roads.

(b) Components

The plan consists of the following components:

- a. Dust emissions
- b. Vehicle and machinery emissions

(c) Management and Mitigation

(ii) (i) Dust emissions

Objectives

To ensure that dust emission from construction activities does not result in adverse health or other negative effects.

Targets

- Dust fallout values shall conform to the relevant values of SA National Standard SANS 1929:2004 (Section 4.8, residential) on the boundary of the residential areas adjacent to construction sites.
- Ensure the safety of the public by the prevention of poor visibility arising from dust created during construction or Operations and Maintenance activities.
- Dust from construction sites shall not to exceed 600mg/m²/day
- No complaints regarding dust.

Method Statements

- Excavation, handling and transport of erodible materials shall be avoided during periods of excessive wind.
- On unconsolidated areas and dirt roads the operating speeds shall be reduced and additional dust suppression techniques implemented to minimize dust generation.
- Appropriate dust suppression techniques shall be administered e.g. watering, chemical stabilisation, use of wind fencing, covering of surfaces and the vegetating of open areas. These techniques shall be site specific depending on the local environmental conditions.
- During extreme windy conditions construction activities shall temporarily be ceased to prevent

excessive dust generation.

- Exposed soil surfaces shall appropriately be covered with indigenous vegetation as soon as practically possible.
- Dust control measures from traffic and other construction activities:
 - Dust generation as a result of construction activities shall be minimised through all reasonable measures.
 - Removal of vegetation shall be avoided until actual topsoil stripping is required.
 - Excavation handling and transport of erodible materials shall be avoided under high wind conditions or when a visible dust plume is present.
 - Soil stockpiles shall as far as possible be located in sheltered areas where they will not be exposed to erosive winds.
 - Appropriate dust-suppression techniques should be implemented where dust generation is unavoidable – such measures shall include wet suppression, chemical stabilisation, use of wind fencing, covering of surfaces with straw, brush packs or chippings, and the vegetation of open areas.
 - Strict measures will apply where materials in powder form, such as cement, lime, concrete additives, etc. are stored, handled or used, and for the proper disposal of packaging of any such materials.
 - In excessive windy conditions, the dust generating activities must be stopped until wind speed drops to an acceptable level.
 - All exposed surfaces shall be stabilised, resurfaced or re-vegetated as soon as is practically possible.
- Adequate water carts shall be on site to meet dust suppression demands throughout the duration of the contract.
- Exposed areas such as unpaved access roads and stockpiles must be regularly watered using water carts whose timing and extent of application will depend on weather conditions.
- Exposed soil that has the potential for generating dust shall be re-vegetated or stabilised as soon as possible after construction work is completed, or kept damp until re-vegetation or stabilisation occurs.
- The stripping of topsoil shall be staged to ensure that areas are not opened too far in advance of work commencing.
- The loads of trucks which carry material that will generate dust shall be covered with tarpaulins on public roads.
- Material spilled on paved construction and access roads shall be removed regularly.
- All unsealed access roads shall be watered during dry and windy conditions.
- Blasting must be restricted to periods of calm wind conditions to minimise the potential for dust dispersion.

(jj) (ii) Vehicle and machinery emissions

Objectives

To ensure that vehicle and machinery emissions comply with acceptable norms and standards.

Targets

- No Complaints regarding emissions from construction vehicles or machinery.
- Emission from stationary plant shall comply with environmental regulations.

Method Statements

- Service construction vehicles and machinery as per manufacturer's requirements.
- The Contractor shall inspect all construction vehicles and machinery every morning for defects (indicator lights, oil leaks, etc.) and excessive emissions.
- Vehicle emissions shall be tested as per the described methods and standards by the Local Authority where required. All vehicles not complying with the specified standard shall be removed from service.
- All complaints received pertaining to construction vehicle emissions shall be recorded as well as the actions taken to rectify the situation.
- Asphalt and other plant shall be regularly monitored for compliance with emission standards.

C.7: WATER MANAGEMENT

(a) Purpose

Construction activities inherently have the potential to impact on the water environment, specifically surface water. This management and mitigation plan ensures that construction activities are managed in such a manner that any negative impacts are mitigated or prevented.

(b) Components

- a. Storm water runoff and discharge
- b. Erosion protection
- c. Flood lines
- d. Proximity to rivers, streams and/or wetlands
- e. Water Abstraction
- f. River crossings / alteration of water courses
- g. Pollution control.

(c) Management and Mitigation

(kk) (i) Storm water runoff and discharge

Objectives

To ensure that storm water runoff and discharge are effectively controlled.

Targets

- No flooding as a result of storm water control measures.
- No erosion as a result of storm water control measures.
- No silt pollution as a result of storm water control measures.

Method Statements

- Suitable means for the control and disposal of accumulated storm water which may run off from any earthworks, building or paving shall be provided.
- The Local Authority shall be consulted before any storm water is disposed to any street surface or municipal storm water drainage system.
- No storm water shall be allowed to enter any drainage installation.
- The following measures to limit storm water runoff and discharge shall be implemented:
 - Establish vegetation after earthworks has been completed
 - Construct berms on contours lines
 - Provide dedicated storm water runoff channels
 - Bench steep embankments
 - Install erosion protection measures, like gabions, rock packing and grass bales as and when required to reduce the velocity of storm water and prevent erosion.

(II) (ii) Erosion protection

Objectives

To ensure that all disturbed areas are protected against erosion.

Targets

- No erosion channel formation as a result of areas being disturbed.

Method Statements

- Identified areas where erosion could occur shall be appropriately protected by installing the necessary temporary and/or permanent drainage works as soon as possible and by taking other appropriate measures to prevent water from being concentrated in rivers/streams and from scouring slopes, banks or other areas.
- Any erosion channels which develop during the construction period shall be suitably backfilled, compacted and restored to a proper condition (i.e. vegetated etc.).
- Where excavation takes place, the affected area shall be properly stabilised and re-vegetated to minimise the risk of erosion.
- Appropriate mitigation measures to control sediment flow into rivers shall be instituted during construction.
- The following storm water control measures shall be considered and implemented to prevent erosion:
 - use of silt screens;
 - use of straw bales as filters, which are placed across the flow of overland storm water flows;
 - channelling storm water run-off through natural grassland buffer areas (at least 20m);
 - silting of storm water pipes in adjoining developments and townships as a result of run-off from the reserve shall not be permitted. If this does occur, it shall be the responsibility of the contractor to clean out the pipes to the satisfaction of the relevant municipality;
 - gabions or storm water control structures should be used to disperse storm water flows and/or prevent and control erosion where necessary along rivers or streams;
 - in the case of high volumes of storm water flow, retention (stilling) ponds shall be provided;
 - all erosion protection measures shall be maintained on a continual basis;
 - corrective actions shall be taken as and when required to stop any signs of erosion;
 - regular inspections by the ECO shall be undertaken at especially:
 - inlet and outlet points of drainage structures,
 - storm water release points, and
 - along sections where drainage structures are placed on steep slopes.
- Where possible, storm water shall be released in grassy areas which acts as a natural filter and to reduce the erosion potential of the water.
- The stabilization of cuttings during the construction phase to prevent erosion and sedimentation shall be undertaken through various methods to limit or eliminate erosion and sedimentation such as gabions, rock packing, vegetation establishment, bales and poles, and vegetation sausages.

(mm) (iii) Flood lines

Objectives

To ensure that no construction activities take place within predetermined flood lines.

Targets

- No unauthorised activities within the 1:100 year flood line.

Method Statements

- the 1:50 and 1:100 flood lines for all rivers and streams at which construction activities will take place shall be determined before construction works commence.
- Maps shall be drawn with an appropriate scale to show all construction activities in relation to the 1:50 and 1:100 flood lines.
- No unauthorised activities shall take place within the 1:100 year flood line.
- Where possible construction activities shall only take place during low flow periods when as little of the construction site and exposed sediment as possible is in contact with the flow.

(nn) (iv) Proximity to rivers, streams and/or wetlands

Objectives

To ensure that construction activities close to rivers, streams and / or wetlands do not negatively affect rivers, stream and / or wetlands.

Targets

- No impact on riparian vegetation.
- No impact on wetland vegetation.
- No silt pollution in rivers and streams as a result of construction activities.

Method Statements

- Where appropriate, the removal of large individual indigenous riparian trees shall be avoided during construction and shall be marked on site prior to construction works commence.
- No unnecessary construction activities shall take place within any wetland boundary.
- All construction activities shall be 50 meters from the edge of any river/stream or outside the 1:100 year flood line, whichever is the greatest, unless specific environmental approval for these activities have been obtained.

(oo) (v) Water Abstraction

Objectives

To ensure that where water abstraction is required, it is properly authorised and does not result in ecological damage.

Targets

Compliance to all statutory, RoD, Water Use License/General Authorization and permit requirements.

Method Statements

- Where water is obtained from municipal water lines, approval from the local authority responsible for the area shall be obtained. The volumes of water used shall be recorded.
- Water abstracted from a river/stream shall only be abstracted based on an issued Water Use License or a General Authorization.
- Where water used is obtained from an entity enlisted in an irrigation scheme or that has a registered water use, written agreement for that water use shall be presented.

- All boreholes inside the road reserve shall be registered and a Water Use License or General Authorization specifying the allowable abstraction shall be obtained.
- Boreholes inside the road reserve and not in use shall be sealed as to prevent any contamination of surface water recharge.
- Prevention and mitigation measures must be implemented to ensure water quality is not adversely affected by such extraction (No surface run-off of oils, cement, litter, paints etc. which could pollute nearby streams and rivers).

(pp) (vi) River crossings / alteration of water courses

Objectives

To prevent and mitigate disturbance and change to the riparian zones and in-stream habitats of rivers and streams during construction of water course crossings.

Targets

- No impact on riparian vegetation.
- No impact on wetland vegetation.
- No silt pollution in rivers and stream as a result of construction activities.

Method Statements

- All construction roads in or adjacent to the riparian zone should be aligned and managed so as to minimise disturbance of the riparian zone and in-stream habitats.
- Temporary river crossings shall be constructed from rock fill and no loose material that could be washed out shall be allowed.
- At completion of the contract all temporary river crossings shall be removed and all rock fill or any other foreign material shall be removed from the river/stream.
- For natural watercourses, the original geometry, topography and geomorphology in both cross-sectional and longitudinal profile should be reinstated at above or below river crossings.
- The mitigation methods should be audited during construction, and monitored for a period thereafter, until full rehabilitation is assured and stability demonstrated.

(qq) (vii) Pollution control

Objectives

To prevent pollution of any river, stream, ground water and / or wetland with grease, hydrocarbons, suspended solids or other contaminants as a result of construction activities.

Targets

- Compliance with all defined water quality thresholds in adjacent surface and ground water.

Method Statements

- All spillage or contamination incidents shall be reported to the relevant office of the Department of Water Affairs.
- Storage, handling and disposal of fuels, oils, lubricants and other potentially harmful chemicals (and their containers) shall be done under proper supervision in accordance with the manufacturer's instructions.
- Discharges of liquid waste shall under no circumstances be allowed.

- Where pollution of a water body may potentially occur, the Contractor shall ensure adequate measures (e.g. containment, drainage diversion systems, attenuation, settlement dams, and oil absorbent products) are taken to prevent pollution.
- Areas where cement is mixed and containers washed shall be placed away from rivers, streams and drainage lines and be confined to a minimum sized area, which is banded, so that contaminated runoff is contained.
- Any spillages of pollutants, irrespective of size, shall be contained and cleaned immediately.
- Boreholes identified where there is a possibility of contamination or pollution should be sealed with a sanitary seal.
- All effluent water from the camps or office located on site must be disposed of in a properly designed and constructed system which will be situated so as not to adversely affect water sources (streams, rivers, pans dams, etc.).
- No discharge of pollutants such as concrete, lime, chemicals, oils, fuels, cement, sewage, construction water, etc. shall be allowed to run into any water resource.
- Runoff from fuel depots/workshops/truck washing areas and concrete swills must be directed into a conservancy tank and disposed of at an approved site. The Contractor will be responsible for the construction of and operation of necessary collection facilities in order to prevent such pollution and/or settlement of suspended matter.
- Drip trays shall be placed beneath any plant item where fuel or oil is spilled or where the possibility of a spill exists.

C.8: WASTE MANAGEMENT

(a) Purpose

The inappropriate handling and disposal of solid and liquid waste materials can be a safety or health risk for humans and could lead to contamination of the environment.

This construction phase management and mitigation plan covers the handling and disposal of solid waste generated during the construction phase, inclusive of domestic and construction waste. The general waste management principles of prevent, minimise, recycle or re-use, with disposal as a last option will apply. Only permitted and registered landfills will be considered as options for disposal of waste.

Hazardous waste includes waste generated from or contaminated with the following: diesel, oil, bitumen, petrol, paints, thinners or any other hydrocarbons.

(b) Components

The plan consists of the following components:

- a. Waste minimisation
- b. Waste classification and tracking
- c. Domestic waste disposal
- d. Construction waste disposal
- e. Hazardous waste.

(c) Management and Mitigation

(rr) (i) Waste minimisation

Objectives

To initiate processes to prevent, minimize, recycle and reuse domestic and construction waste material.

Targets

- Waste recycled and or reused shall be at least 10% of all waste generated.

Method Statements

- Train and inform all construction workers regarding waste minimisation.
- Where feasible, waste materials must be recycled and the following will apply:
 - Waste shall be separated into different containers at the construction site.
 - These containers will be suitably marked and stored in a covered and enclosed area to protect it from the elements and scavengers.
 - Recycling will be done by staff wearing suitable PPE such as gloves and dust masks.
 - Separated materials will be taken to recycling centres or could be collected by recycling Contractors.
- Provide clear signs and separation areas for waste material.
- Source a dedicated waste Contractor to regularly remove separated waste materials.

- Prepare a spoil material mass balance to ensure that the optimum spoil material generated as a result of construction activities are used as fill material.

(ss) (ii) Waste classification and tracking

Objectives

To ensure that all waste generated during construction activities is properly identified, classified and records are maintained of the quantities of waste generated and where it was disposed.

Targets

- 100% record of all waste generated and disposed at waste disposal facilities.
- Valid disposal certificates for all waste disposed

Method Statements

- Implement a waste tracking system with a dedicated individual responsible for the tracking system.
- All waste disposed shall be traceable to issued disposal certificates.
- All disposal certificates shall be kept on site for audit purposes.

(tt) (iii) Domestic waste disposal

Objectives

To ensure that domestic waste generated during construction activities is disposed at properly licensed, fit for purpose facilities.

Targets

- No littering on construction sites.
- Adequate containers are supplied and are easily accessible.
- Waste bins are removed and cleaned daily.
- Valid disposal certificates are issued.

Method Statements

- Littering shall not be allowed on site or at camps.
- Adequate containers or bins for litter removal shall be supplied on site.
- The containers or bins shall be emptied on a regular basis as required.
- The Contractor shall collect waste from all working areas for disposal at a licensed waste disposal site together with that collected at the camps.
- Bins or containers used at the camps and construction areas will be water and scavenger proof.
- If required, chicken runs shall be conducted on site and at the camps to keep it litter free – this will be done at least once a week but as often as required to ensure a litter-free site.
- Care shall be taken not to dispose of hazardous materials with the domestic waste – hazardous materials shall be disposed of at a hazardous waste disposal site.
- Where waste is to be transported by truck, it shall be covered appropriately.

(uu) (iv) Construction waste disposal

Objectives

To ensure that construction waste generated during construction activities is disposed of at properly licensed, fit for purpose facilities.

Targets

- No littering on construction sites.
- Adequate containers are supplied and are easily accessible.
- Waste bins are removed and cleaned daily.
- Valid disposal certificates are issued.

Method Statements

- Construction waste shall be recycled or re-used in the construction process.
- Waste that cannot be re-used or recycled shall be disposed of at the nearest appropriate and licensed waste disposal site.
- Waste shall not be buried and / or burnt on site.
- A sufficient number of refuse bins that are wind and animal / scavenger proof shall be provided.
- Collected waste shall be disposed of regularly and proportionately to its generation, at a permitted waste disposal facility.
- Litter and rubble shall be regular clearing and disposal off.
- Where waste is to be transported by truck, it shall be covered appropriately.

(vv) (v) Generation and Disposal of Hazardous Waste

Objectives

To implement a proper hazardous waste disposal system.

Targets

- Compliance to all Statutory and RoD requirements.

Method Statements

- Hazardous waste shall be placed in separate containers clearly marked for the purpose.
- Care shall be taken not to dispose of hazardous materials with domestic waste – hazardous materials shall be disposed of separately.
- Hazardous waste containers shall be water and scavenger proof.
- Hazardous waste shall be disposed of at an appropriately authorised waste disposal facility
- A register with valid waste disposal certificates issued for disposal of hazardous waste shall be kept in a central location.
- All hydrocarbon waste shall be collected separately and recycled through a registered and approved recycler.
- Service providers responsible for hazardous waste removal shall be registered and approved in terms of the statutory requirements.

(ww) (vi) Hazardous Spillages

Objectives

To ensure that hazardous spillages generated during construction are properly managed.

Targets

- Compliance to all Statutory and RoD requirements.
- Hazardous spillages to be cleaned immediately.

Method Statements

- All hazardous spillages shall be cleaned immediately.
- A hazardous spillage procedure shall be developed.
- Staff shall receive training in the use of a hazardous spillage kit.
- Spill kits shall be appropriately placed at identified risk areas.
- Hazardous spill kits shall be kept in stock to replace spent spill kits immediately.
- Care shall be taken to ensure hazardous spillages do not enter water courses / resources
- Clean up of hazardous spillages will be approached as follows:
 - Retention
 - Recovery
 - Re-use
 - Disposal.

C.9: ECOLOGICAL MANAGEMENT

(a) Purpose

The purpose of the ecological management and mitigation plan is to ensure minimal environmental impact on the ecology during construction.

(b) Components

The plan is made up of the following components:

- a. Ecologically sensitive areas/habitats
- b. Vegetation clearance
- c. Rare or endangered species
- d. Indigenous trees
- e. Weeds and alien vegetation
- f. Re-vegetation after construction.

3. MANAGEMENT AND MITIGATION

(xx) (i) Ecologically sensitive areas/habitats

Objectives

- To ensure that ecologically sensitive habitats are identified and not significantly impacted upon by construction activities. Ecologically sensitive areas include:
 - Wetlands
 - River crossings
 - Red data plant habitats
 - Streams and drainage canals
 - Conservation areas
 - Dams and lakes.

Targets

- Ecological sensitive areas are demarcated as “No-Go” areas.
- No unauthorised access to such demarcated areas

Method Statements

- “No-Go” areas or demarcated environmentally sensitive areas:
 - All identified highly sensitive vegetation; habitat and species populations shall be protected by demarcating “No-Go” areas through fencing or other suitable means.
 - Unauthorised entry, stockpiling, dumping or storage of equipment or materials shall be strictly prohibited within the demarcated “No-Go” areas.
- Buffer zones shall be established around sensitive ecological areas and adhered to during the construction phase.
- Working areas / construction sites:
 - Fencing around the “No-Go” areas shall be of low impact, preventing further disturbance of the vegetation and disruption of the natural migratory movement of animals, wherever possible.

- Workers must be limited to areas under construction and access to underdeveloped areas (especially open grasslands and wooded areas) must be strictly regulated, preventing uncontrolled hunting, snaring, poaching and gathering of firewood.
- Optimal use should be made of current road infrastructure during construction. Building of temporary access roads should be kept to a minimum.
- Artificial lighting should be directed away from the open grasslands and sensitive habitats in order to minimise the potential negative effects of the lights on the natural nocturnal activities of animals.
- The careful positioning of soil berms and run-off control during all phases of development and planting of some vegetative cover after completion, will limit the extent of erosion occurring on site.

(yy) (ii) Vegetation clearance

Objectives

To ensure that only areas that are specifically required for construction are affected.

Targets

Areas of natural vegetation affected by the project are minimised.

Method Statements

- Woody vegetation shall be stripped from all work areas and temporary roads prior to start of construction.
- Vegetative material shall be stockpiled for later redistribution over the reinstated topsoil surface.
- During such clearing activities no ground cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.
- All works must be undertaken in a manner that minimises the impact on vegetation outside of the site areas.
- Disturbances and construction activities must be strictly limited to the affected area.

(zz) (iii) Rare or endangered species

Objectives

To ensure that rare and/or endangered species are effectively protected.

Targets

- All areas where rare and/or endangered species could occur shall be identified.
- Areas containing rare and/or endangered species should be avoided.
- Rescue and recovery shall take place if sensitive habitats cannot be avoided.

Method Statements

- For rare and endangered plant and animal species:
 - Rare and endangered flora shall be rescued and relocated within its natural area of distribution.
 - The cutting/felling of rare and endangered fauna shall only take place after obtaining a permit.
 - Remaining indigenous bulbous geophytes and *aloe* species shall be retained or replanted where possible.

- Any translocation of threatened species shall be discussed with the relevant environmental authorities prior to this being undertaken and the necessary permits shall be obtained where required.
- If certain sensitive habitats have to be destroyed, a rescue and recovery programme shall be adopted. Animals recovered can be relocated in suitable habitat adjacent to the reserve. Any existing similar alternative habitat outside the proposed site should be taken in consideration.
- Termite mounds, dead trees, branches, low rocky outcrops, loose rocks and organic litter shall be left undisturbed, where possible,

(aaa) (iv) Indigenous trees

Objectives

To ensure adequate protection of indigenous and other trees identified.

Targets

- Indigenous trees to be avoided.
- If indigenous trees cannot be avoided they shall be replaced or replanted.

Method Statements

- Trees or shrubs, which have been selected for conservation, shall be fenced around their drip line with danger tape.
- Open fires shall not be allowed within this fenced area, nor shall vehicles be parked underneath these trees.
- The area shall also not be used for materials storage or as allocations for temporary buildings.
- Where practical, termite mounds, dead trees, branches, low rocky outcrops, loose rocks, leaf and organic litter must be left undisturbed.

(bbb) (v) Weeds and alien vegetation

Objectives

To eradicate and prevent influx of weeds and alien vegetation during the construction phase.

Targets

- No weeds and/or invasive species to occur in the reserve or at construction areas.

Method Statements

- All weeds and alien vegetation shall be removed from the reserve during the construction phase.
- Use of topsoil for rehabilitation, contaminated with the seed of alien vegetation, will not be permitted unless a program to germinate the seed and eradicate the seedlings is implemented.

(ccc) (vi) Re-vegetation after construction

Objectives

To successfully rehabilitate disturbed areas after construction, including construction areas, temporary accesses, stockpile areas, construction camp and spoil sites.

Targets

- No weeds and/or invasive species shall occur in the reserve or at construction areas.

Method Statements

- The Contractor shall ensure that areas disturbed during construction activities, and areas earmarked for rehabilitation and landscaping are suitably re-vegetated.
- Any vegetation planted at the camp site shall be indigenous and endemic.
- In wooded areas where natural vegetation has been cleared out of necessity, the same indigenous trees as were occurring prior to the establishment of the site camp or construction activity shall be re-established.
- The project specification for the rehabilitation of grass cover must be strictly adhered to.
- Any proclaimed weed or alien species that germinates during the re-vegetation process shall be cleared by hand before flowering.
- Top soiling will be done after shaping to blend in with the environment and scarification of the top 50 mm shall be undertaken prior to seeding.
- Top soil must be placed in a layer of 100 mm thick from the topsoil stockpiles, established prior to construction, and supplemented by topsoil from commercial sources if insufficient quantities are available from these stockpiles.
- Re-vegetated areas shall be monitored every 3 months during the first year and twice a year thereafter for coverage and for the eradication of exotic weeds and invader species.
- Where indigenous seed, harvested from the site, and commercial seed were used, acceptable cover will mean that:
 - Not less than 75% of the area seeded will be covered with acceptable plants;
 - There will be no bare patches greater than 1m² in dimension throughout the area.
 - In the case of grass or sedge sodding, acceptable cover will mean that the full area will be covered with live grass at the end of any period not less than three months after sodding.
- The planting of Kikuyu sodding closer than 100m of the 1:100 flood line of any drainage line is not permitted.
- Where this cover is not achieved, the Contractor will, at his own expense, plant additional grass and tend to it in a similar manner as the original planting until the acceptable cover is achieved.
- Re-vegetation of disturbed areas must be undertaken with site indigenous species.
- Use of topsoil for rehabilitation, contaminated with the seed of alien vegetation, will not be permitted unless a program to germinate the seed and eradicate the seedlings is implemented.

C.10: ENVIRONMENTAL AWARENESS TRAINING

(a) Purpose

The purpose of the environmental awareness management and mitigation plan is to entrench a culture of continued environmental awareness training. The training shall focus on various levels in the organization from general worker to management level. Training shall also be extended towards Contractors and sub-Contractors.

(b) Components

The plan is made up of the following components:

- a. Tool box talks
- b. Management training.

(c) Management and Mitigation

(ddd) (i) Tool Box Talks

Objectives

To sensitise general worker and operator grade level personnel on relevant environmental issues affecting them and informing them on how they can contribute to improve or remedy issues.

Targets

- Compliance to all Statutory and RoD requirements.
- Develop a monthly training program for general workers and operators

Method Statements

- Implement a training program covering relevant environmental information for all general labour and operator grades.
- Develop and implement specific programmes aimed at maintenance teams and how they can minimise their impact on the environment during execution of maintenance activities.
- Select environmental topics that are relevant and of interest and will contribute to the overall improvement of environmental performance of the project.
- Allow flexibility to the training program to allow for inclusion of a new relevant topic should the need arise.
- Include environmental issues related to emergency preparedness and response as part of the training program.
- Include environmental issues related to safety and security, including fire control, as part of the training program.
- Training shall be focused on promoting staff awareness regarding the importance of conserving water at all times.
- Training shall be focused on identifying activities and/or actions that can reduce water usage and waste generation following the Water Management Hierarchy – use, minimize, recycle, treatment with disposal as last option.

(eee) (ii) Management Training

Objectives

To sensitise all levels of management on relevant and interesting environmental issues affecting them and informing them on how they can contribute to further improve their environmental performance.

Targets

- Compliance to all Statutory and RoD requirements.
- Develop a six monthly training program for management.

Method Statements

- Implement a training program covering relevant environmental information for all levels of management.
- Develop training material and to allow for six monthly training sessions to management.
- Allow flexibility to the training program to allow for inclusion of a new relevant topic should the need arise.
- Include environmental issues related to emergency preparedness and response as part of the training program.
- Include environmental issues related to safety and security, including fire control, as part of the training program.
- Subject specialists shall be used where required to undertake the specialist and detailed subject specific training.
- Training shall be focused on promoting staff awareness regarding the importance of conserving water at all times.
- Training shall be focused on identifying activities and/or actions that can reduce water usage and waste generation following the Water Management Hierarchy – minimize, re-use, recover recycle with disposal as last option.

SECTION E: REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS

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1.0 SCOPE

This part of the specification has the objective to assist the contractor entering into contracts with the Employer that they comply with the Occupational Health and Safety (OH&S) Act, No. 85 of 1993, as well as all applicable Regulations. Compliance with this document does not absolve the contractor from complying with minimum legal requirements and the contractor remains responsible for the health and safety of his employees and those of his Mandataries. The contractor shall therefore include this part of the specification to any contract that he may have with subcontractors and/or suppliers.

This section covers the development of a health and safety specification that addresses all aspects of occupational health and safety as affected by this contract. It provides the requirements that the contractor shall comply with in order to reduce the risks associated with this contract, which may lead to incidents causing injury and/or ill health. In this matter the spirit and intention of Regulation 5(1)(I) of the Construction Regulations, 2014 regarding negotiations between the parties, related to the contents and approval of the Health and Safety Plan, must be complied with.

2.0 GENERAL OCCUPATIONAL HEALTH AND SAFETY PROVISIONS

(a) Hazard Identification and Risk Assessment (Construction Regulation 9)

(i) Risk Assessments

Clause E1004 contains a generic list of risk assessment headings that have been identified by the Employer as possibly applicable to this contract. It is, by no means, exhaustive and is offered as assistance to the contractor.

(ii) Development of Risk Assessments

The contractor shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, conduct a risk assessment by a competent person and the risk assessment so produced shall form part of the OH&S plan and be implemented and maintained as contemplated in Construction Regulation 9(1). Competence is a factor of training, knowledge, experience and/or appropriate qualifications. Where proof of competence is required by the Regulation, a concise CV must be attached to the appointment letter.

The risk assessment shall include, as far as is reasonably practicable, at least:

- the identification of the risks and hazards to which persons may be exposed;
- the analysis and evaluation of the risks and hazards identified, inclusive of a residual risk rating methodology. The method to be used is not prescribed;
- a documented plan of safe work procedures, to mitigate, reduce or control those residual risks that have been identified as unacceptably high, by means of the rating system;
- a monitoring plan;
- a review plan, inclusive of dates to be adhered to; and
- ergonomic related risks are to be analysed, evaluated and addressed as part of the process.

Based on the risk assessments, the contractor shall develop a set of site-specific OH&S rules that shall be applied to regulate the OH&S aspects of the construction. The risk assessments, together with the site-specific OH&S rules shall be submitted to the Employer before construction on site commences. Despite the more advanced (or site specific) risk assessments listed below in clause E1004: PROJECT/SITE SPECIFIC REQUIREMENTS, the Employer would have conducted a baseline risk assessment before work commence and made the same available to the contractor. This does not mean that all possible Risk Assessments must be attended to before work commences, but that all relevant Risk Assessments receive the necessary attention as the contract progresses, and this is the responsibility of the contractor.

All variations to the scope of work shall similarly be subjected to a risk assessment process.

(iii) Review of Risk Assessment

The contractor shall review the hazard identification, risk assessments and standard working procedures at each production planning and progress report meeting as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and processes. The contractor shall provide the Employer, subcontractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated above.

(b) Legal Requirements

The contractor shall, as a minimum, comply with:

- The Occupational Health and Safety Act and Regulations (Act 85 of 1993), an up-to-date copy of which shall be available on site at all times.
- The Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993), an up-to-date copy of which shall be available on site at all times.
- Where work is being carried out on a “mine”, the contractor shall comply with the Mines Health and Safety Act and Regulations (Act 29 of 1960) and any other OH&S requirements that the mine may specify. An up-to-date copy of the Mines Health and Safety Act and Regulations shall be available on site at all times.

(c) Structure and Responsibilities

(i) Overall Supervision and Responsibility for OH&S

It is a requirement that the contractor, when he appoints subcontractors in terms of Construction Regulations 7(1)(c), 7(1)(d), 7(1)(f) and 7(3) includes in his agreement with such subcontractors the following:

- OH&S Act (85 of 1993), Section 37(2) agreement: “Agreement with Mandatory”
- OH&S Act (85 of 1993), Section 16(2) appointee/s as detailed in his/her/their respective appointment forms. (Where applicable)

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

The contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. Below is a generic list of identified appointments and may be used to select the appropriate appointments for this contract. The contractor shall note that it is a generic list only and is intended for use as a guideline.

Appointment	Regulation
Construction Manager, Assistant Construction Manager, Construction Supervisor, Assistant Construction Supervisor	(Construction Regulation 8(1), 8(2), 8(7) and 8(8))
Construction Vehicles and Mobile Plant/Machinery Supervisor	(Construction Regulation 23)
Demolition Supervisor	(Construction Regulation 14)
Drivers and Operators of Construction Vehicles or Plant	(Construction Regulation 23)
Electrical Installation and machinery on construction sites	(Construction Regulation 24)
Emergency/Security/Fire Coordinator	(Construction Regulation 29)
Excavation Supervisor	(Construction Regulation 13)
Explosive actuated fastening device	(Construction Regulation 21)

Fall Protection Supervisor	(Construction Regulation 10)
First Aider	(General Safety Regulation 3)
Fire Equipment Inspector	(Construction Regulation 29)
Temporary Works designer and Temporary Works Supervisor	(Construction Regulation 12)
Hazardous Chemical Substances Supervisor	(HCS Regulations)
Incident Investigator	(General Admin Regulation 29)
Ladder Inspector	(General Safety Regulation 13A)
Cranes	(Construction Regulation 22)
Materials Hoist Inspector	(Construction Regulation 19)
OH&S Committee	(OH&S Act Section 19)
Construction OH&S Officer	(Construction Regulation 8(5) & 8(6))
OH&S Representatives	(OH&S Act Section 17)
Person Responsible for Machinery	(General Machinery Regulation 2)
Scaffolding Supervisor	(Construction Regulation 16)
Stacking & Storage Supervisor	(Construction Regulation 28)
Structures Supervisor	(Construction Regulation 11)
Suspended Platform Supervisor	(Construction Regulation 17)
Tunnelling Supervisor	(Construction Regulation 15)
Bulk Mixing h Plants	(Construction Regulation 20)
Working on/next to Water Supervisor	(Construction Regulation 26)
Welding Supervisor	(General Safety Regulation 9)

In addition the Employer requires that a Traffic Safety Officer be appointed. The above appointments shall be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information shall be communicated and agreed with the appointees. Notice of appointments shall be submitted to the Employer. All changes shall also be communicated to the Employer.

The contractor shall, furthermore, provide the Employer with an organogram of all subcontractors that he/she has appointed or intends to appoint and keep this list updated and prominently displayed on site.

(iii) Designation of OH&S Representatives (Section 17 of the OH&S Act)

Where the contractor employs more than 20 persons (including the employees of subcontractors) he has to appoint one OH&S representative for every 50 employees or part thereof. This is a minimum (legal) requirement. The contractor may at his own discretion appoint more OH&S Representatives according to site specific requirements. General Administrative Regulation 6 requires that the appointment or election and subsequent designation of the OH&S representatives be conducted in consultation with employee representatives or employees. (Section 17 of the Act and General Administrative Regulation 6 & 7). OH&S representatives shall be designated in writing and the designation shall include the area of responsibility of the person and term of the designation. OH&S representatives must be experienced, permanently employed by the contractor or his subcontractors, trained and able to move freely within their designated area of responsibility.

(iv) Duties and Functions of the OH&S Representatives (Section 18 of the OH&S Act)

The contractor shall ensure that the designated OH&S representatives conduct continuous monitoring and regular inspections of their respective areas of responsibility, focusing on unsafe acts and unsafe conditions and report thereon to the contractor. OH&S representatives shall participate in accident or incident investigations. OH&S representatives shall attend all OH&S committee meetings.

(v) Appointment of OH&S Committee (Sections 19 and 20 of the OH&S Act)

The contractor shall establish an OH&S committee, which shall meet at least once a month.

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

(i) The OH&S File (Construction Regulation 7(1)(b))

As required by Construction Regulation 7(1), the contractor and subcontractors shall each keep an OH&S file on site. The following index is neither exhaustive nor prescriptive but recommended as a guide for the contents of the OH&S file:

- Notification of construction work (Construction Regulation 4) where applicable
- Latest copy of OH&S Act (General Administrative Regulation 4)
- Proof of registration and good standing with COID Insurer (Construction Regulation 5(1)(j))
- OH&S plan agreed with the Employer including the underpinning risk assessment/s and method statements (Construction regulation 7(1))
- Copies of OH&S committee and other relevant minutes
- Designs/drawings (Construction Regulation 7(1)(e))
- A list of subcontractors including copies of the agreements between the parties and the type of work being done by each subcontractor (Construction Regulation 7(1)(f))
- Appointment/designation forms as per sub-sub-clause E1002(a)(i) and (ii).
- Registers as follows:
 - Accident/Incident register (Annexure 1 of the General Administrative Regulations)
 - OH&S representatives' inspection register
 - Asbestos demolition and stripping register
 - Bulk mixing plant inspections
 - Construction vehicles and mobile plant inspections by controller
 - Daily inspection of vehicles, plant and other equipment by the operator/driver/user
 - Demolition inspection register
 - Designer's inspection of structures record
 - Electrical installations, -equipment and -appliances (including portable electrical tools)
 - Excavations inspection
 - Explosive actuated fastening device inspection, maintenance, issue and returns register (incl. cartridges and nails)
 - Fall protection inspection register
 - First aid box contents
 - Fire equipment inspection and maintenance
 - Temporary works inspections
 - Hazardous chemical substances record
 - Ladder inspections
 - Lifting equipment register
 - Materials hoist inspection register
 - Machinery safety inspection register (incl. machine guards, lock-outs etc.)
 - Scaffolding inspections
 - Stacking and storage inspection
 - Inspection of structures
 - Inspection of suspended platforms
 - Inspection of tunnelling operations
 - Inspection of vessels under pressure
 - Welding equipment inspections
 - Inspection of work conducted on or near water
 - Welfare facilities as provided

(e) Notification of Construction Work (Construction Regulation 3)

The contractor shall, where the contract meets the requirements laid down in Construction Regulation 4 prior to commencement notify the Department of Labour of the intention to carry out construction work and use the form (Annexure 2 in the Construction Regulations) for the purpose. A copy shall be kept on the OH&S file and a copy shall be forwarded to the Employer for record keeping purposes.

(f) Training and Competence

The training required by the Act and Regulations shall be included in the contractor's OH&S plan. The contractor shall be responsible for ensuring that all relevant training is undertaken. Only accredited training providers shall be used for the regulatory OH&S training. The contractor shall ensure that his and his subcontractors' personnel appointed are competent and that all training required for doing the work safely and without risk to health, has been completed before work commences. The contractor shall ensure that follow-up and refresher training is conducted as the contract work progresses and the work situation changes. This does not absolve any subcontractors from their responsibilities as Employers. Records of all training must be kept on the OH&S file for auditing purposes.

(g) Consultations, Communication and Liaison

OH&S liaison between the Employer, the contractor, the subcontractors, the designer and other concerned parties will be through the OH&S committee as contemplated in sub-sub-clause E1002(c)(v). In addition to the above, communication may be directly to the Employer or his appointed agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their construction managers and supervisors, OH&S representatives and the OH&S committee. The contractor shall be responsible for the dissemination of all relevant OH&S information to the subcontractors e.g. design changes agreed with the Employer and the designer, instructions by the Employer and/or his/her agent, exchange of information between subcontractors, the reporting of hazardous/dangerous conditions/situations etc. The contractors' most senior manager on site shall be required to attend all OH&S meetings.

(h) Checking, Reporting and Corrective Actions

(i) Monthly Audit by Employer (Construction Regulation 5(1)(o))

The Employer will conduct monthly health and safety and document verification audits in compliance with Construction Regulation 5(1)(o) in order to ensure that the contractor has implemented and is maintaining the agreed and approved OH&S plan.

(ii) Other Audits and Inspections by the Employer

The Employer reserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include site safety walks.

(iii) Contractor's Audits and Inspections

The contractor must conduct his own regular internal audits to verify compliance with his own OH&S management system, as well as with this specification. The contractor shall furthermore ensure that each subcontractor's health & safety plan is being implemented by conducting periodic audits at intervals mutually agreed between the contractor and subcontractors, but at least once per month.

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

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

(v) Recording and Review of Inspection Results

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

(i) Accidents and Incident Investigation (General Administrative Regulation 9)

The contractor and his subcontractors shall coordinate their investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic. The results of the investigation shall be entered into an accident/incident register listed in sub-sub-clause E1002(d)(i).

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

(j) Reporting

The contractor shall provide the Employer with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring.

(k) Medical certificate of fitness (Construction Regulation 7 (1) (g) and 7 (2) (8))

The Contractor as well as subcontractor (where appointed) shall ensure that all their employees have a valid certificate of fitness, specific to the construction work to be performed and issued by an occupational health practitioner, in the form of Annexure 3 to Government Gazette No. 37305 of 7 February 2014.

3.0 OPERATIONAL CONTROL

(a) Operational Procedures

Each construction activity shall be assessed by the contractor so as to identify operational procedures that will mitigate against the occurrence of an incident during the execution of each activity. This specification requires the contractor:

- to be conversant with all relevant Regulations;
- to comply with their provisions;
- to include them in his OH&S plan where relevant.

(b) Emergency Procedures

Simultaneous with the identification of operational procedures (per sub-clause E1003 (a) above), the contractor shall similarly identify and formulate emergency procedures in the event an incident does occur. The emergency procedures thus identified shall also be included in the contractor's OH&S plan, and communicated as part of induction training. It is the responsibility of the first aid worker, together with the construction supervisor, to make an assessment regarding the severity of injuries and which actions are appropriate. For example: transfer to a medical facility by ambulance or helicopter.

(c) Personal & Other Protective Equipment (Sections 8/15/23 of the OH&S Act)

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

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

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

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

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

The contractor shall include in his OH&S plan the PPE he intends issuing to his employees for use during construction and the sanctions he intends to apply in cases of non-conformance by his employees. Conformance to the wearing of PPE shall be discussed at the weekly inspection meetings.

(d) Other Regulations

Wherever in the Construction Regulations or this specification there is reference to other regulations (e.g. Construction Regulation 24: Electrical Installations and Machinery on Construction Sites) the contractor shall be conversant with and shall comply with these regulations.

(e) Public Health & Safety (Section 9 of the OH&S Act)

The contractor shall, as far as is reasonably practicable, be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers.

This includes:

- Non- employees entering the site for whatever reason
- The surrounding community
- Passers-by to the site

4.0 PROJECT/SITE SPECIFIC REQUIREMENTS

The following is a generic list of Risk Assessment and Site specific health and safety specification prepared by the Employer in terms of construction Regulation 5(1)(a) and 5(1)(f):

- Clearing and Grubbing of the area/site
- Site establishment including:
 - Office/s
 - Secure/safe storage for materials, plant and equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
 - Laboratories and handling of hazardous testing methods and materials
- Working in vicinity and adjacent to roadways open to public traffic and management thereof as specified in Section 1500.
- Dealing with existing structures
- Location of existing services
- Installation and maintenance of temporary construction electrical supply, lighting and equipment
- Adjacent land uses/surrounding property exposures
- Boundary and access control/public liability exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
- Exposure to noise

- Exposure to vibration
- Protection against dehydration and heat exhaustion
- Protection from wet and cold conditions
- Dealing with HIV/Aids and other diseases
- Use of portable electrical equipment including
 - Angle grinder
 - Electrical drilling machine
 - Circular saw
- Excavations including
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench
- Welding including
 - Arc welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances
- Loading and offloading of trucks
- Aggregate/sand and other materials delivery
- Manual and mechanical handling
- Lifting and lowering operations
- Driving and operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Bomag roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles and mobile plant
 - Towing of vehicles and mobile plant
- Use and storage of flammable liquids and other hazardous substances e.g. petrol, diesel, cement, asphalt, bituminous materials and similar
- Layering and bedding
- Installation of pipes in trenches
- Pressure testing of pipelines
- Backfilling of trenches
- Protection against flooding
- Gabion work
- Use of explosives
- Protection from overhead power lines
- As discovered by the contractor's hazard identification exercise
- As discovered from any inspections and audits conducted by the Employer or by the contractor or any subcontractor on site
- As discovered from any accident/incident investigation.



N3 TOLL CONCESSION (RF) PROPRIETARY LIMITED

Contract No	Project Number	Date	Employers Representative
N3TC/ RM-2022-601	RM-2022-601	July 2022	Anesh Madanlal
	Department Technical		Project Manager / Engineer Piet Louw
Description	<p align="center">THE SPECIAL MAINTENANCE PROJECT ON NATIONAL ROUTE 3, SECTION 5: INKOSI LANGALIBALELE AREA</p> <p align="center">DRAINAGE MAINTENANCE ON HIGHWAY SECTION 4: CONSTRUCTION OF A CONCRETE LINED DRAIN</p>		
Document Type	EMPLOYER'S RISK ASSESSMENT AND DESIGNER'S RISK MANAGEMENT ACTION.		
Scope of Works	Refer to Contract RM-2022-601 Volume 3 Part C4 Site Information for detailed Scope of Works.		
Schedule of Responsible Persons	To be completed before the Commencement of the Works.		

Employer's Risk Assessment and Designer's Risk Management Action

(1) Ref	(2) Activity/Process/Material/Element	(3) Hazard ¹	(4) Stage of Work	(5) Risk Assessment: Severity / Likelihood / Risk	(6) Designer Risk Control Measures ² : Design action taken, record of decision process including option considered, design constraints.
A General					
A1	Working on roads open to the public. In vicinity of high speed traffic and restricted working space	Injury / Fatality	Construction	Major / Likely / Extreme. Traffic safety officer to be appointed. Effective traffic management to be provided at all times. Detailed specifications and drawings to be provided to ensure legal compliance.	The N3 highway is a highly trafficked route and construction will be done under traffic. Access is via interchanges. There are toll plazas. Traffic Management to be put in place in accordance with the SA Road Traffic signs manual and according to the specifications and drawings. In planning traffic management, consultations must be made beforehand with relevant Local Authorities and Incident Management Team. The site management team to ensure that staff and persons visiting site are made aware of safe working procedures w.r.t. live traffic and that appropriate risk assessments are undertaken. Refer to Section 1500.
A2	Abnormal loads traversing the site.	Conflicts with construction equipment and damage to temporary traffic accommodation signs	Construction	Significant / Likely / Substantial. Abnormal loads on the N3 are a regular occurrence. Contractor to be made aware of abnormal loads and to make provision for accommodating through work area	Contractor is made aware of the possibility of abnormal loads. N3TC route control centre to assist with pre-warning. Abnormal load permit office to be made aware of construction activities and lane restrictions. Good relationships with RTI to be maintained.
A3	Field access and domestic entrances	Access to be maintained	Use (as workplace)	Insignificant / Unlikely / Substantial. Know access is access to the toll plaza buildings	Take cognisance of accommodation works drawings for accommodating accesses
A4	Temporary access roads and temporary diversions	Fatality Risk of traffic accidents to the public and construction worker	Construction	Significant / Likely / Substantial.	Traffic Management including the design of temporary diverted roads, shall be put in place in accordance with the Traffic Signs Manual. In planning traffic management, consultations must be made beforehand with relevant Local Authorities, Gardai and residents. Appropriate Signage to be put in place for temporary diversions. Contractor should put in place Public lighting on temporary diverted roads where required and maintain public lighting on existing roads.
A5	Pedestrian activity during construction. Along the existing N3 there are locations where those on site must take particular	Pedestrians are more likely to be found in the	Construction	Significant / Likely / Substantial. Construction activities to take	Construction Traffic and public Traffic Management designer should be alert to pedestrian movement at all times.

(1) Ref	(2) Activity/Process/Material/Element	(3) Hazard ¹	(4) Stage of Work	(5) Risk Assessment: Severity / Likelihood / Risk	(6) Designer Risk Control Measures ² : Design action taken, record of decision process including option considered, design constraints.
	care to watch for pedestrian. Cognisance to be taken of operations activities in the toll plaza area.	toll plaza area and N3-4 km 50 to km 50.2		cognisance of operations within the toll plaza area. High pedestrian activity at N3-4 between km 50 and km 50.2.	Temporary work fencing and warning signs to isolate pedestrians from site vehicles and works where appropriate.
A6	Noise and dust related activities	Injury and nuisance	Use (as workplace)	Significant / Likely / Substantial. Noise dust and vibration related to construction activities, e.g. excavation, milling, compaction	Contractor to provide relevant PPE to workers. Where necessary, apply dust suppressant
A7	Work involving rock blasting/deep excavation/earthworks transportation to accommodate new road alignments	Injury / Accident	Construction	Significant / Likely / Substantial. Excavation is related to milling of pavement layers and sub soil drain excavation. Step off after milling to be managed	Milled areas to be kept closed to traffic until corrected. Temporary ramps to be provided is necessary. Excavations to be protected and closed to traffic
A8	Work involving handling of heavy prefabricated unit at structures including bridges, culvert, gantries signs and other structures	Fatality	Construction	Significant / Likely / Substantial. Culvert units to be handles with due care as per manufacturers specification.	Adequate safety harnesses to be provided. Storage of units on site to be demarcated
A9	Conflict with existing live services	Striking existing services	Construction	Significant / Likely / Substantial. Underground services exist within the site. All known services are to be identified and included in Section 1200.	Before commencing works on site, the Contractor should review the existing services information provided with the Tender Document and consult with service providers to recheck location of older service and review newly installed services. Contractor to prove and expose services by hand excavation where required.
A10	Working adjacent to or over waterways	Damage to structure or possible fall event	Construction	Significant / Likely / Substantial. Work on bridge decks include milling asphalt, replacing asphalt and replacing bridge joints. Dead load is not being altered significantly. Road over feature open to public exists. Refer to EMP for risk of water contamination.	Contractor to ensure that load limit of bridge is not exceeded. Compaction to be restricted to minimum required without excessive use of high amplitude vibration. Special precaution to be taken where working on bridges over features open to public (N3-9 km 13,0; 42 & 76,2)
A11	Working adjacent to ongoing routine maintenance activities	Conflict with other contractors.	Construction / Maintenance	Significant / Likely / Substantial. There will be ongoing routine road maintenance in progress during construction. Contractor to be made aware of external activities and be given sufficient warning of RRM activities	The Contract contains the details of the ongoing RRM activities and the contact details for the N3TC RRM Manager.
A12	Driving and operating construction vehicles and construction equipment.	Accident / Injury / Fatality	Construction / Maintenance	Significant / Likely / Substantial.	OHS Act and Construction Regulations apply. Refer to Section E.

(1) Ref	(2) Activity/Process/Material/Element	(3) Hazard ¹	(4) Stage of Work	(5) Risk Assessment: Severity / Likelihood / Risk	(6) Designer Risk Control Measures ² : Design action taken, record of decision process including option considered, design constraints.
				Ensure that the Contractor complies with OHS Act and Regulations relating to the operation of all construction vehicles and equipment. All notifications, permits where applicable and mandatory appointments to be in place before construction commences.	
Works Activities					
B1	Access to site	Conflicts with traffic	Construction	Moderate / Likely / Substantial. Construction vehicles enter and depart work areas into the normal traffic flow. Toll plaza access roads to remain open.	Site access and compound layouts to be properly planned by Contractor, giving consideration to a non-exhaustive list of items such as set-down areas for materials, internal and external site traffic management, one-way systems and turning circles, fencing and security. Training to be provided to all plant and vehicle operators relating to conduct on the site and when entering and exiting the site.
B2	Construction projectiles striking workmen or public	Projectile strike causing injury.	Construction / Maintenance	Significant / Likely / Substantial During milling and sweeping activities, there is a likelihood of solid particles becoming projectiles with a risk of striking a person.	Contractor to carry out risk assessment and mitigate strike risks.
B3	Handling and placing hot products. Bituminous road surfacing material	Burns and major injuries from hot works	Construction	Significant / Likely / Substantial. The works include the production, transport and placing of bituminous products that are heated to high temperatures. e.g. Asphalt	Contractor to provide workers with protective gear and safety equipment where appropriate when within the close proximity of the works. Visitors to be made aware of danger of close proximity to materials at high temperature.
B4	Handling of bituminous products and other hazardous petrochemicals.	Exposure to hazardous material	Construction	Significant / Likely / Substantial Bitumen and petrochemicals are classified as a hazardous material. The works include the production, transport and placing of bituminous products.	Contractor to take cognisance of guidelines relating to the handling bituminous materials and petrochemicals.
B5	Road level tie-ins	Unsafe step alignment tie-ins.	Construction	Significant / Likely / Substantial. During the overlay operations, the new road level will be higher than the adjacent shoulder.	During the overlay operations, the new road level will be higher than the adjacent shoulder. The works provides for the construction of a new shoulder. Where the step-off during construction exceeds 75mm, provisional arrangements for safety to be made.

(1) Ref	(2) Activity/Process/Material/Element	(3) Hazard ¹	(4) Stage of Work	(5) Risk Assessment: Severity / Likelihood / Risk	(6) Designer Risk Control Measures ² : Design action taken, record of decision process including option considered, design constraints.
B6	Contact with biological hazards associated with vermin or snakes	Infection of workers	Construction	Significant / Likely / Substantial	Tool box talks to include avoidance of all rodents and snakes and immediate notification of supervisor if bitten.
B7	Site offices and Laboratory	Hygiene, exposure to electricity, fire and hazardous materials.	Construction	Significant / Likely / Substantial. Planning of offices and laboratory to provide for safety and bylaw compliance.	Contractor to plan and provide all necessary safety certification, safe storage areas and safety equipment. Laboratory ventilation to take cognisance of hazardous methods and products used in testing. All equipment to be calibrated and certified.
B8	Facilities on site for workmen	Hygiene, exposure and dehydration.	Construction	Significant / Likely / Substantial. The site is remote from normal services. Adequate provision to be made for latrines and protection from elements.	Contractor to provide at each work area. <ul style="list-style-type: none"> • mobile latrines. • Shaded rest facilities. • Potable water.
B9	Weather (Rain)	Delays, cost, slope stability, access, damage to existing layer works, flooding	Construction	Significant / Likely /Extreme	Monitor weather predictions Early warning system to be implemented by contractor with regards to sluice gates at Midmar dam
B10	Working at height	Injuries from fall	Construction	Significant / Likely /Extreme This applies to all works carried out at elevated positions.	Contractor to develop industry standard fall protection plan
B11	Working near water bodies	Injuries/drowning from falling in water	Construction	Significant / Likely /Extreme This applies to all works carried out adjacent or over water bodies.	Contractor to develop toolbox talk and to have safety equipment available on site for recovery and resuscitation.

PART C4: SITE INFORMATION

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PART A: GENERAL INFORMATION RELATING TO THE PROJECT

C4.1 MISCELLANEOUS

The Project Specifications form an integral part of the Contract Documents and shall be deemed to be included in and to form part of the Specifications.

In the event of any discrepancy or conflict with any part or parts of the Specifications, the Schedule of Quantities or the Drawings, the Project Specifications shall take precedence.

The standard specifications that form parts of this contract have been written to cover all facets of work normally required for road contracts and they may, therefore, cover items of work not applicable to this particular contract.

C4.2 DESCRIPTION OF THE WORKS

a) This contract comprises of special maintenance drainage works on the N3 in the Inkosi Langalibalele area. These maintenance actions include the following main work:

- CONSTRUCTION OF A NEW CONCRETE LINED DRAIN

C4.2.1 The Site

The site shall be defined as the road reserve on route section 5, Highway Section 4 commencing at Estcourt South IC (N3-5 km 12.3) and ending at Wembezi IC (N3-5 km 19.3).

Access to the site shall be from established interchanges, intersections. The movement of the contractor's staff and equipment through toll gates on other highway sections on the route will be charged at normal rates.

"The site" shall be deemed to include the full extent of the road reserves of the Interchange area as defined above including all areas used for approved stock pile sites, approved spoil sites, camps and establishment facilities including their respective access roads.

C4.2.2 Details of the works and objectives

The primary objective of the project is to realign the existing median drain and inlets to levels provided and to shape and trim the side slope to 1:4 between the Southbound carriageway and the new drain. Breaking out of the existing concrete is required where indicated by the Engineer.

The works required under this contract will include the following:

- Establishment
- Accommodation of Traffic. Refer to the drawings provided.
- Cut and fill material to ensure a 1:4 side slope.
- Raising the existing manholes to the correct height and installing inlet grids.
- Removal of existing concrete.
- Construction of a new concrete drain: 1.5m wide x 700m long (split into 6 separate sections of various lengths). Refer to drawings. Panel length 2m.

C4.2.3 Accommodation of Traffic

The contractor shall take special note of the requirements of Clause 7 Traffic, Section 1500 & B1500 regarding the accommodation of traffic and the safety of the public.

C4.2.4 Changes to Scope of Work

It is a 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 the works may be reduced at any time before or during the contract period to ensure that the final contract amount does not exceed the budgeted amount.

C4.3 DRAWINGS

The Contractor shall be issued with a set of drawings detailing the Accommodation of Traffic. Layouts are included in Volume 4.

C4.4 CAMP ESTABLISHMENT, POWER SUPPLY AND OTHER SERVICES

C4.4.1 Services

The Contractor is to make his own arrangements concerning the supply of water for construction and human consumption, electrical power and all other services. No payment will be made for the provision of water for construction and/or human consumption, electrical and other services. The cost thereof is deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

C4.4.2 Camp Site

There are no specific facilities available for the contractors camp site.

The Contractor shall provide adequate portable toilet units at the work site for use by all his personnel during working hours. The units shall be within walking distance from the place of work.

On completion of the contract, the Contractor shall be solely responsible for site rehabilitation.

No employees, except for security guards, will be allowed to sleep or be accommodated on the campsite, if the campsite is located in an urban area. The Contractor shall make the necessary arrangements with the authorities for the accommodation of his employees. No informal housing or squatting will be allowed.

C4.4.3 Disposal of Spoil

The Contractor shall dispose of all surplus and waste materials in legal spoil areas secured by him and approved by the Engineer. The Contractor shall be responsible for all the necessary arrangements to obtain such spoil areas and shall submit to the Engineer written permission from the legal owner(s) of the property for the use of their land for this purpose.

C4.5 MANAGEMENT OF THE ENVIRONMENT

The Contractor will be responsible for construction according to an environmental management plan in terms of Section C of the project specifications.

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 set out in Section C of the project specifications. Where the Contractor fails to adhere to these requirements the specifications in Section C provide the methodology and cost liability of remedy.

C4.6 REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS

Refer to Section E of the Scope of Works for general requirements in terms of the OH&S requirements.

C4.7 TRAFFIC

C4.7.1 Safety

The travelling public shall have the right of way on public roads. 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 and inconvenience the road users.

Failure to maintain road signs, warning signs and flicker lights in good working conditions shall constitute ample reason for the Engineer to suspend work until such road signs and road safety ancillaries have been repaired or reinstated to the Engineer's satisfaction.

The Contractor may not park any of his vehicles or construction equipment within 6m of the travelled lane edge outside normal working hours as defined in the General Conditions of Contract. Any deviation from this will be dealt with as a contravention of Clause B1502(m). Where no alternative is possible, the Contractor shall apply to the Engineer for a relaxation of the 6m distance. In this instance, sufficient road signage and warning lights shall be ordered by the Engineer, which signage shall be provided, erected and maintained by the Contractor at his cost, and the equipment shall be parked at least 2m from the travelled lanes.

C4.7.2 Accommodation of Traffic

Typical accommodation of drawings for the Construction of the N3 Toll Road will be used.

The method of measurement and payment for accommodation of traffic shall be as per B1501

- i) Traffic safety officer, assistants, special vehicles for maintenance, inspection, dealing with all accommodation of traffic related issues including reporting of accidents measured and paid for under item B15.01. The unit of measurement shall be the "month" as defined in Item B13.01(c);
- ii) All temporary signs and other traffic control facilities required for the Works will be compensated for as a lump sum under Item B15.03(n). Full maintenance including the replacement of damaged signs will be deemed included in item B15.01.
- iii) Compensation for the re-use of the signs for the required closures at other locations will be deemed to be covered in Item B15.01;
- iv) No overnight lane closures will be allowed.

The measurement and payment items in Section 1500 and B1500 shall be binding. Refer to drawing 2022-601-TA1 for details of the traffic accommodation layout.

The Contractor shall organize his work in accordance with B1502 (l) such that the requirements of the N3TC CRITICAL DATES YEAR PLANNER, "Embargo Days", are complied with. The 2022 year planner is provided on the next page and shall be used as a guide to determine embargo days for subsequent years.

C4.8 REQUIREMENTS OF THE GOVERNMENT'S PROGRAMME FOR BROAD-BASED BLACK ECONOMIC EMPOWERMENT

It is a requirement of this project that contractors are familiar with the specifications that relate to the transformation of the construction industry through the following:

Employment of Black Enterprises (BE's),
Construction using labour maximization principles.

It is a requirement of this contract that the Contractor actively pursues participation within local communities adjacent to the project, awareness of the need to bring work opportunities to the nearest indigent populations remains a priority.

It is a condition of this Contract that the Contractor remains compliant with the requirements of a PDE, which is defined as an organization that has a minimum shareholding of 50,1% of persons who according to racial classification did not have the right to vote prior to the 1994 elections. The Employer reserves the right to terminate the Contract immediately without any further recourse by the Contractor, should the Contractor at any time fail to comply with the PDE requirements.

N3TC: CRITICAL DATES YEAR PLANNER: 2022

School Holidays

Cedara to Heidelberg

Special School Holiday

Public holidays

Only Cedara to Mooi

Special Events

Only Cedara to Tugela

Only Cedara to Lions River

2022 Year Planner (13 October 2021) Rev 2

YEAR	DAY	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue									
2022	Jan-22						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
	Feb-22		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28										
	Mar-22		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
	Apr-22					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
	May-22					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
	Jun-22			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
	Jul-22			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
	Aug-22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
	Sep-22			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
	Oct-22					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
	Nov-22		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30								
	Dec-22			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
2023	Jan-23					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
	Feb-23					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				

LEGEND

A = Extremely busy - Unlikely to solve total demand, delays likely	B = Very busy	C = Moderately busy, roadway should normally cope, beware incidents!	n = Northbound	s = Southbound	Example B n = Very busy northbound where lower case omitted, both directions are implied
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This schedule is subject to change by N3TC

