

PART C3: REVISED SCOPE OF WORK

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SECTION 1

1 Description of the *works*

1.1 Executive overview

The *works* that the *Contractor* is to perform involve the rehabilitation and upgrading 9 access roads with the Transnet Port Terminal, within the Port of Richards Bay.

The *works* to be carried out by the *Contractor* shall include, but not be limited to the following items of work as summarised below:

- Supply, delivery and laying of hot Asphalt premix Base and
- Supply, delivery and laying of hot asphalt Wearing Course.

And any other work arising out of or incidental to the above or required of the *Contractor* for the proper completion of the *works* in accordance with the true meaning and intent of the contract document.

1.2 Employer's objectives

The *Employer's* objectives are to rehabilitate the damaged and deteriorated roads within the terminal to enable operations, in the Port of Richards Bay. This is to enable smooth, efficient and effective operations with the terminal.

The *Employer's* objectives are to achieve the completion of the above *works* as soon as possible whilst still maintaining the highest quality and safety standards, without interfering with the normal day to day operations within the Port of Richards Bay.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AIA	Authorised Inspection Authority
BBBEE	Broad Based Black Economic Empowerment
CEMP	Construction Environmental Management Plan
CD	Compact Disc
CDR	Contractor Documentation Register
CDS	Contractor Documentation Schedule
CRL	Contractor Review Label
CSHEO	Contractor's Safety, Health and Environmental Officer
CM	Construction Manager
DTI	Department of Trade and Industry
DGN
DWG	Drawings
EDMS
EO	Environmental Officer
HAW	Hazard Assessment Workshop
HAZOP	Hazard and Operability Study
HSSP	Health and Safety Surveillance Plan
INC	Independent Nominated Consultant
IP	Industrial Participation
IR	Industrial Relations
IPP	Industrial Participation Policy

IPO	Industrial Participation Obligation
IPS	Industrial Participation Secretariat
IRCC	Industrial Relations Co-ordinating Committee
JSA	Job Safety Analysis
CIRP	Contractor's Industrial Relations Practitioner
Native	Original electronic file format of documentation
PES	Project Environmental Specifications
PHA	Preliminary Hazard Assessment
PIRM	Project Industrial Relations Manager
PIRPM	Project Industrial Relations Policy and Management Plan
PLA	Project Labour Agreements
PSIRM	Project Site Industrial Relations Manager
PSPM	Project Safety Program Manager
PSSM	Project Site Safety Manager
ProgEM	Programme Environmental Manager
ProjEM	Project Environmental Manager
QA	Quality Assurance
R&D	Research and Development
SANS	South African National Standards
SASRIA	South African Special Risks Insurance Association
SES	Standard Environmental Specification
SHE	Safety, Health and Environment
SHEC	Safety, Health and Environment Co-ordinator
SIP	Site Induction Programme
SMP	Safety Management Plan
SSRC	Site Safety Review Committee

2 Engineering and the *Contractor's* design

2.1 *Employer's* design

2.1.1 The *Employer's* design for the *works* is:

- Works Information
- Technical Specifications

And is contained in the:

- Bill of Quantities
- Plant and Material Standards and Workmanship section.

2.1.2 The *Employer* grants the *Contractor* a licence to use the copyright in design data presented to the *Contractor* for the purpose of the *works* (and the *Contractor's* obligation under paragraph 2.2 of the *Employer's Works Information*) ONLY.

2.2 Parts of the *works* which the *Contractor* is to design

2.2.1 The *Contractor* is to design the following parts of the *works*:

- Temporary Works
- All other items required for the Works

2.2.2 The *Contractor* is responsible in his design for the overall integration of the design of the *works* with the design of the *Employer* as stated under 2.1 *Employer's* design.

2.2.3 Unless expressly stated to form part of the design responsibility of the *Employer* as stated under 2.1 *Employer's* design above and whether or not specifically stated to form part of the design responsibility of the *Contractor* under this paragraph 2.2, all residual design responsibility and overall responsibility for the total design solution for the *works* rests with the *Contractor*.

2.3 Procedure for submission and acceptance of *Contractor's* design

2.3.1 The *Contractor* shall address the following procedures:

- The *Contractor* shall submit details of his temporary Works, planned traffic accommodation and all other items required for the Works to the *Project Manager* for review and acceptance.
- The *Contractor* shall submit to the *Project Manager* samples and test results of all materials to be used in the Works and which are to be supplied by the *Contractor*. The *Contractor* shall request approval for the use of the material from the *Project Manager* before incorporation into the *works*. If accepted, the samples so submitted will be kept by the *Project Manager* as standards for the duration of the Contract. No material inferior in quality, workmanship or appearance to the accepted samples shall be used.
- All alternative material not defined herein or COTO proposed by the *Contractor* shall be tested for acceptability by the *Contractor* and the results of the test made available to the *Project Manager*. All such material will then require the approval of the Project Manager.
- The Costs of all tests shall be borne by the *Contractor*.

2.3.2 Documentation Submission

In undertaking the 'Works' (including all incidental services required), the Supplier shall conform and adhere to the requirements of the 'Contractor Document Submittal Requirements' Standard included in Annexure 1 (Refer DOC-STD-0001).

2.4 Review and Acceptance of *Contractor* Documentation

The *Contractor* submits documentation as the 'Works Information' requires to the *Project Manager* for review and acceptance.

2.5 Other requirements of the *Contractor's* design

2.5.1 The *Contractor's* design complies with the following:

- Specifications included in the document.

2.6 Use of *Contractor's* design

2.6.1 The *Contractor* grants the *Employer* a licence to use the copyright in all design data presented to the *Employer* in relation to the *works* for any purpose in connection with the construction, reconstruction, refurbishment, repair, maintenance and extension of the *works* with such licence being capable of transfer to any third party without the consent of the *Contractor*.

2.7 Design of Equipment

- N/A

2.8 Equipment required to be included in the *works*

2.8.1 The following equipment should be available for the completion of the Works:

- Asphalt Paving plant and equipment

2.9 As-built drawings, operating manuals and maintenance schedules

2.9.1 The *Contractor* provides the following:

- A complete set of approved test results based on the acceptance lot sizes specified in COTO.

3 Construction

3.1 Temporary works, Site services & construction constraints

3.1.1 *Employer's* Site entry and security control, permits, and Site regulations

The site is located at the Transnet National Ports Authority, Richards Bay Harbor. Entrance to the site is along the Bayvue and East Gates. The *Contractor* shall plan and organize the work to cause the least possible inconvenience to any operations within the Port. Access to adjacent areas shall be maintained at all times. Security Clearance must be obtained by the *Contractor*.

The *Contractor* will comply with the *Employer's* Site entry and security control, permits, and Site regulations. The *Contractor* will have to apply for access permits and security clearance and should liaise with the *Project Manager* on the process.

A construction site and stockpiling area will be made available, free of charge, to the *Contractor* for the duration of the *Contract*.

The construction site and site camp shall be clearly sign posted as being a construction site and be compliant with the relevant prevailing safety regulation and restrictions that may be in place until the *Contractor* has de established the site and this has been accepted by the *Project Manager* or his duly appointed representative.

3.1.2 Restrictions to access on Site, roads, walkways and barricades

The working hours shall be in accordance with the requirements of the Department of Labour or with the agreement of the relevant trade unions. The information relating to the working hours shall be supplied to the *Project Manager* prior to the commencement of the proposed working hours.

The *Contractor* shall keep detailed daily records of all his personnel and plant engaged on Site and the Working Areas (including sub-contractors) with access to such daily records being available for inspection by the *Project Manager* at all reasonable times.

The *Contractor* ensures that any of his staff, labour and Equipment moving outside of his allocated Site and Working Areas does not obstruct the operations of the Port. To this end access routes are allocated and coordinated by the *Project Manager*.

The *Contractor* is specifically excluded from entering the *Employer's* Operational Areas which are adjacent to the Site and Working Areas. The *Contractor* plans and organizes his work in such a manner so as to cause the least possible disruption to the *Employer's* operations.

The *Contractor* ensures the safe passage of *Contractor's* traffic to and around the Site and Working Areas at all times that includes providing flagmen, protective barriers, signage, etc. for protection, direction and control of traffic as detailed in the project specifications.

During construction, there will be at least one carriageway open for use by the Port's users at all times.

3.1.3 People restrictions on Site; hours of work, conduct and records:

- The working hours shall be in accordance with the requirements of the Department of Labour or with the agreement of the relevant trade unions. The information relating to the working hours shall be supplied to the *Project Manager* prior to the commencement of the proposed working hours.

3.1.4 Health and safety facilities on Site

The *Contractor* should comply with all the Health and Safety requirements as included in this Document.

Specifically, all *Contractor's* staff and labour working within the TPT terminal complies with Transnet Port Terminal's (TPT) operational safety requirements and are equipped with all necessary personnel protective equipment (PPE).

3.1.5 Title to Materials from demolition and excavation

The *Contractor* has title to all materials arising from excavation and demolition in the performance of the Works with the exception of:

- Any material specifically requested by Transnet during the construction stage (specifically reclaimed asphalt premix (RAP)).
- With title to such Materials (as referenced above) remaining with the *Employer*. The *Project Manager* shall instruct the *Contractor* how to label, mark, set aside and/ or dispose of such materials for the benefit of the *Employer* in accordance with ECC Clause 73.1.

3.1.6 Cooperating with and obtaining acceptance of others

The *Contractor* shall not commit or permit any act that may interfere with the performance of the other parties operating in the area and shall carry out work in close liaison with the *Project Manager*.

3.1.7 Publicity and progress photographs

- The *Contractor* shall obtain the permission and approval of the *Employer* before erecting any notice boards or using the details of the contract in any advertising media.
- The *Contractor* does not advertise the contract or the project to any third party, nor communicate directly with the media (in any jurisdiction) whatsoever without the express written notification and consent of the *Project Manager*.
- The *Contractor* provides a notice board as per the Standard Detail included in the design drawings at a position indicated by the *Project Manager*.
- The *Contractor* provides general progress photographs at the monthly progress meetings in printed and electronic format.

3.1.8 The *Contractor* does not advertise the contract or the project to any third party, nor communicate directly with the media (in any jurisdiction) whatsoever without the express written notification and consent of the *Project Manager*.

3.1.9 *Contractor's* Equipment

The *Contractor* keeps daily records of his Equipment used on Site and the Working Areas (distinguishing between owned and hired Equipment) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

3.1.10 Equipment provided by the *Employer*

- No equipment will be provided by the *Employer*.

3.1.11 Site services and facilities:

The *Contractor* shall make his own arrangements for the supply of services such as electricity, potable water, ablutions, fire protection, lighting and all other services required for undertaking the Works. The *Contractor* shall provide, maintain and finally remove proper portable latrines of sufficient number at the cost. Latrines shall be properly constructed and placed in suitable positions and maintained in a clean and sanitary working condition.

3.1.12 The *Employer* provides the following facilities for the *Contractor*:

- A suitable construction site camp will be made available free of charge to the *Contractor* for the duration of the contract.

- The site camp shall be clearly sign posted as being a construction site and shall be compliant with the relevant prevailing safety regulations and restrictions that might be in place until the *Contractor* has de-established from site and has been approved by the *Project Manager* for his duly appointed representative.
- The layout of any construction site camp, if required, shall be submitted to the *Project Manager* for his approval before the *Contractor* starts erecting his camp.

3.1.13 Wherever the *Employer* provides facilities (including, *inter alia*, temporary power, water, waste disposal, telecommunications etc) for the *Contractor's* use within the Working Areas and the *Contractor* adapts such facilities for use, then the *Contractor* makes good and provides full reinstatement to the land (including all apparatus of the *Employer* and Others in, on or under the land) and surrounding areas to its original standard upon dismantling of such facilities and hand-back to the *Employer*.

3.1.14 Facilities provided by the *Contractor*:

- The *Contractor* shall make his own arrangements for the accommodation of all labour and comply with the requirements of the respective authorities.
- No accommodation for the *Contractor's* and/ or sub-contractor's employees will be available on site. No employee, with the exception of security watchmen, may, without written approval from the *Project Manager*, be accommodated on site.
- The *Contractor* shall, at his own expense, provide for security and access to his construction sites as he may require. Control of access for construction plant onto public roads shall be in accordance with the requirements of the relevant road's authority and *Project Manager*.
- No liability will be accepted by Transnet for the safekeeping of the *Contractor's* materials. The *Contractor* will not be required to provide any facilities for the use of the *Project Manager*.

3.1.15 The *Contractor* provides the following facilities for the *Project Manager* and *Supervisor*:

- Not required

3.1.16 Unless expressly stated as a responsibility of the *Employer* as stated under 5.1.11 Site services and facilities, all residual requirements for the provision of facilities and all items of Equipment necessary for the *Contractor* to Provide the *Works* remains the responsibility of the *Contractor*.

3.1.17 Existing premises, inspection of adjoining properties and checking work of Others

The *Contractor* and the *Project Manager* will inspect the immediate surroundings and record any damage before work is started.

3.1.18 Survey control and setting out of the *works*

Not Applicable

3.1.19 Underground services, other existing services, cable and pipe trenches and covers

The *Contractor* is required to liaise with the *Project Manager* and establish as accurately as possible, the location of the various existing services situated within the *Works* area and record all such information on a suitable "marked-up" drawing for reference at all times. The accuracy of services indicated on the drawings cannot be guaranteed.

All existing services shall at all times be protected and/ or barricaded where these maybe affected by the Works or where these may endanger the safety of personnel.

Should relocation of existing services be necessary, this will either be carried out by Transnet or the *Contractor* under day Works rates where instructed by the *Project Manager* in writing. Should known services be damaged by construction, the cost of repairs will be for the *Contractors* account.

Where the *Contractor* damages a service due to negligence, he shall bear full cost of repairs to the service. These repairs will be carried out by the relevant authority, or at their discretion, by the *Contractor* to the satisfaction of the relevant authority.

3.1.20 Control of noise, dust, water and waste

Before moving Equipment onto the Site and Working Areas and commencing operations, the *Contractor* submits his proposed methods of construction which demonstrate the measures taken to avoid and or reduce any nuisance arising from dust, noise and vibration for acceptance by the *Project Manager*.

3.1.21 The *Contractor* complies with the following:

- Baseline Construction programme

3.1.22 Giving notice of work to be covered up

The *Contractor* shall give 24 hours' notice to the *Supervisor* before covering any work.

3.2 Completion, testing, commissioning and correction of Defects

3.2.1 The *work* to be done by the Completion Date

On or before the Completion Date the Contractor shall have done everything required to Provide the Works including the work listed below which is to be done before the Completion Date and in any case before the dates stated. The Project Manager cannot certify Completion until all the work listed below has been done and is also free of Defects, which would have, in his opinion, prevented the Employer from using the works and Others from doing their work.

Item of work	To be completed by
As built data of the completed pavement layers and surfacing levels and material results	Within 7 days prior to Completion.
Complete process control and acceptance testing results that proves the Works compliance, in accordance with the Provision of Chapter 9 of the COTO Specification.	Within 7 days prior to Completion.
Site Snag list Inspection completed by the Project Manager or his designated representatives.	Within 21 days prior to completion

3.2.2 The *Contractor* is permitted to carry out the following *works* after Completion:

- Items identified as snag list items during the Completion Inspection.
- Provision of materials, facilities and samples for tests and inspections.

3.2.3 Use of the *works* before Completion has been certified

- The roads will be completed and handed over to the *Project Manager* as per sequencing in the Construction Programme.

The *Employer* needs to use the rehabilitated roads for operational requirements.

4 Plant and Materials Standards and Workmanship

4.1 Investigation, Survey and Site Clearance

4.1.1 The *Contractor* carries out the following investigations at the Site:

- Investigation to identify any existing services that needs protection.

5 List Of Drawings

5.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title
N/A		

SECTION 2

6 Management and start up

6.1 Management meetings

The *Contractor* shall attend management meetings at the *Project Manager's* request. It is envisaged that at least one monthly contract management meeting.

The *Contractor* will also be required to attend a safety meeting once a month. The *Contractor* will also attend a kick off meeting and a close off meeting. The *Contractor* will be required to present all relevant information including early warnings of compensation events, quality plans, schedules, (including progress) sub-contractor management, and health, environmental and safety issues at such meetings.

All meetings are to be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register are not to be used for the purposes of confirming actions or instructions under the contract as these are to be done separately by the person identified in the conditions of contract to carry out such actions or instructions.

6.2 Documentation Control

The *Contractor* shall submit all documentation complying with the *Employer's* standards and requirements. The *Employer* will issue all relevant documentation and drawings, including revisions, to the *Contractor*, but control, maintenance and handling of these documents will be the *Contractor's* sole responsibility and at its expense, and managed with a suitable document control system.

6.3 Safety risk management

6.3.1 General:

The *Contractor's* attention is directed to the Health and Safety Specification HAS-STD-001, and in particular to his Health and Safety Program, which must be submitted with his tender, as well as the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended and Regulations issued in terms thereof or un-repealed regulations issued in terms of the former Act no. 6 of 1983, in their entirety.

Without derogating from the Act or any un-repealed regulations issued in terms of legislation, or without purporting to limit the *Contractor's* responsibilities, the following are brought to the *Contractor's* attention:

- a) For the purpose of the Act the site/s, to be demarcated as agreed to between the *Contractor* and the *Project Manager* before the Works start, will be transferred to the control of the *Contractor* for the duration of the contract.
- b) The *Contractor* shall appoint a health and safety coordinator to liaise at least fortnightly with the *Project Manager* on matters pertaining to occupational health and safety.
- c) The *Contractor* is an '*Employer*' in his own right as defined in Section 1 of the Act 85 of 1993 and he shall fulfil all his obligations as an *Employer* in terms of the Act.
- d) The *Contractor* shall furnish the *Project Manager* with full particulars of any sub-contractor which he may involve in the contract and the sub-contractor shall be made aware of all the clauses in this contract pertaining to health and safety.

- e) The *Contractor* shall advise the *Project Manager* of any hazardous or potentially hazardous situation, which may arise from, work being performed either by the *Contractor* or sub-contractor.
- f) A letter of good standing in terms of Section 80 (*Employer* to register with the Compensation Commissioner) of the Compensation for Occupational Injuries and Deceases Act 1993 (Act 130 of 1993), must also be furnished.
- g) The *Contractor* shall comply with the current Transnet Specification HAS-STD-001, Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act, Act 85 of 1993 and Regulations, and shall, before commencement with the execution of the Contract, which shall include site establishment and delivery of construction plant, equipment or materials, submit to the *Project Manager*:
- Documentary proof of his procedural compliance with the Act, and
 - Particulars of the Health and Safety Program to be implemented on the site in accordance with the Transnet Specification HAS-STD-001.
 - The *Contractor's* Health and Safety Program will be subject to agreement by the *Project Manager*, who may order supplementary and/ or additional safety arrangements and/ or different safe working methods to ensure full compliance by the *Contractor* with his obligations as an *Employer* in terms of the Act.
- h) All clauses in this contract pertaining to health and safety form an integral part of the contract and if not complied with may be constructed as breach of contract entitling the *Employer* to the appropriate remedies.

NB: The *Contractor* and his employees shall have valid safety inductions and medical certificates when accessing or working on site. Copies of which shall be submitted to the *Employer's* Representative. This will be at a time and location Transnet will arrange.

6.3.2 Hazard identification and risk assessment.

The *Contractor's* appointed Site Representative and the *Project Manager* shall finalize a site-specific HIRA (Hazard Identification and Risk Assessment) document, on the day of site handover to the *Contractor*. This site-specific HIRA document, based on a continuous HIRA, must cover site-specific hazards and the safe management if these hazards. The HIRA document must be signed by the *Project Manager*, before any construction work can commence.

6.3.3 Substance abuse.

The OHSA (Act 85 of 1993) clearly states in the Safety Regulations no. 2A "INTOXICATION" An Employer or user, as the case may be, shall not permit any person who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace". TPT enforces this legislation by means of its Substance Abuse Policy, and therefore reserves the right to do substance abuse testing on anyone who enters their premises.

6.3.4 Safety meetings

- 6.3.5 The *Contractor* shall ensure that a safety representative is appointed, and regular safety meetings are held. Written minutes of these safety meetings shall be forwarded to the *Project Manager*. All costs related to the safety aspects required under this contract will be carried by the *Contractor* and therefore be covered under the rates tendered.

NB: The tendered amount shall include for all costs to conform to the Health and Safety Requirements.

6.4 Environmental constraints and management

All work is to be conducted in accordance with the principles of the National Environmental Management Act, 1998 (Act no. 107 of 1998) and accepted environmental good practices. The following documents, included in the Works Information, provide the minimum acceptable standards that shall be adhered to:

- Construction Environmental Management Plan ENV-STD-002 (CEMP)
- Standard Environmental Specification ENV-STD-001 (SES)
- Project Environmental Specification (PES)

The *Contractor* shall perform the Works and all construction activities within the Site and Working Areas having due regard for the environment and environmental management practices.

The SES describes the minimal acceptable standard for environmental management for the range of environmental aspects commonly encountered on construction projects and sets environmental objectives and targets, with which the *Contractor* must comply.

Alternative: the PES describes the specific environmental standards applicable to the Works (the site and the working areas) as required by the relevant project environmental authorizations and is supplementary to the SES. The PES may require higher minimal standards than those described in the SES.

The *Contractor* shall, as required by the CEMP, provide activity bases environmental method statements for particular planned construction activities at the Site and/ or Working Area and/ or were requested by the Construction Manager or Environmental Manager.

Where relevant, the *Contractor* shall provide detailed method statements, as required by the suitably qualified and experienced SES and PES, within the timeframes stipulated.

The *Contractor* shall appoint an Environmental Officer.

The *Contractor* shall maintain records of checks, audits and environmental monitoring, as required by the CEMP, SES and PES.

6.5 Quality assurance requirements

- 6.5.1 The *Contractor* shall maintain, implement and demonstrate its use to the *Project Manager* (and/ or the *Supervisor*) the documented Quality Management System to be used in the performance of the Works. The *Contractor's* Quality Management System shall conform to International Standard ISO 9001 (or an equivalent standard acceptable to the *Project Manager*).

The *Contractor* shall comply with the requirements as stipulated in QM-STD-001, General Requirements for Suppliers and *Contractors* (latest version).

The *Contractor* submits his Quality Management System documents to the *Project Manager* as part of his programme under ECC3 Clause 31.2 to include details of:

- Quality Plan for the contract
- Quality Policy
- Index of Procedures to be used
- A schedule of internal and external audits during the contract

The Contractor develops and maintains a comprehensive register of documents that will be generated throughout the contract including all quality related documents as part of its Quality Plan.

The Project Manager indicates those documents required to be submitted for either information, review or acceptance and the Contractor indicates such requirements within his register of documents. The register shall indicate the dates of issue of the documents with the Project Manager responding to documents submitted by the Contractor for review or acceptance within the period for reply prior to such documents being used by the Contractor.

The Quality Plan means the Contractor's statement, which outline strategy, methodology, resources allocation, QA and Quality Control co-ordination activities to ensure that the Works meet the standards stated in the Works Information.

6.6 Programming constraints

6.6.1 General

The programme, progress reports, subsequent updates, revisions and supplementary programmes as detailed in this section are an essential part of the iPAS project control system used by the *Employer* for managing the Works and in monitoring the progress of the work under the Contract. The information and data provided by the *Contractor* pursuant to this procedure must therefore be reliable, accurate and timely in presentation.

6.6.2 Programme submission

As identified in the Scope of Works, a programme is to be submitted with the tender. This programme shall comply with the requirements as indicated in the Works Information and with specific reference 31.2 of the NEC3 Engineering Construction Contract. The programme shall be submitted in both hard and soft copy form using a computer software package accepted by the *Project Manager*.

The preferred software package is Microsoft Projects.

6.6.3 Progress reporting

To demonstrate the actual progress of the work under the Contract the *Contractor* shall, on a weekly basis, update and submit to the *Project Manager*.

- a) The revised programme, in form of a three week look-ahead, that shall show two (2) separate bars for each activity as per i) and ii) below so as to enable a comparison of the actual progress with the first programme:
 - The first programme activity bar, and
 - The revised activity bar identifying the currently forecast start and finish dates of the activity, and the status (% complete of each activity)
- b) The progress 'S curves' based on the latest Accepted Programme
- c) Deviations of the "current" activity schedule from the "baseline" activity schedule together with the "S curves" will form the basis for assessing progress and performance.

6.6.4 Progress monitoring and review

Monitoring and review of the progress of work under the Contract shall consist of an assessment of all activities currently in progress. The following shall be determined:

- Percentage complete
- Forecast completion date.
- S-curves showing actual versus baseline figures.
- Deviations from the Accepted Programme
- Actions required to remedy any deviations.

6.6.5 Monthly Status report

The *Contractor* shall provide a written status report by the 20th of each month, or such other reporting period as may be required by the *Project Manager* from time-to-time. The report shall summarize progress and problems encountered during that month in respect of all parts of the work under the Contract.

As a minimum the report shall include:

- Progress against the Accepted Programme
- Summary of progress achieved during the period using progress 'S-curves'
- List of milestones achieved during the period
- Status of design, procurement, and off-site Works

- Status of on-site Works
- Deviations from the Accepted Programme and in particular, the forecast completion dates of activities which have or should have commenced
- Status of approvals
- Actual or anticipated problems with corresponding action plans to minimise the impact
- Summary of Works planned for the following period
- Cash flow status versus the original forecast

The progress report shall form the basis of the monthly progress meeting between the *Project Manager* and the *Contractor*.

6.7 Contractor's management, supervision and key people

The *Contractor* shall provide an organogram and CVs of his key people and their line of authority and communication for approval by the *Project Manager*.

6.8 Insurance provided by the Employer

Procedures for making insurance claims can be obtained from the *Project Manager*. This will include but not be limited to:

The procedure manual further details the cover to be arranged by the *Contractor* and sub-contractors as well as exclusions and deductibles.

The *Contractor* liaises with the *Employer* and the *Project Manager* at the Contract Date to declare the ECC3 contract details to the *Employer's* nominated insurance brokers.

Where the Works involve the assembly, erection and installation of Plant, the *Contractor* declares the full replacement value and not the value included in the ECC3 contract.

The *Contractor* liaises with the *Employer* and the *Project Manager* when a claim is made and assists in completing the Claims Advice Forms that shall be provided.

6.9 Contract change management

No additional requirements apply to ECC Clause 60 series.

6.10 Provision of bonds and guarantees

6.10.1 The form in which a bond or guarantee required by the conditions of contract (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Contractor* provides a bond or guarantee as required by the conditions of contract concurrently with the execution by the Parties of the form of agreement for the ECC3 contract.

6.10.2 The *Contractor* keeps the following records available for the *Project Manager* to inspect:

- Records of design employee's location of work (if appropriate);
 - Records of Equipment used, and people employed outside the Working Areas (if applicable);
- and

6.11 The Contractor's Invoices

6.11.1 When the *Project Manager* certifies payment (see ECC Clause 51.1) following an assessment date, the *Contractor* complies with the *Employer's* procedure for invoice submission.

6.11.2 The invoice must correspond to the *Project Manager's* assessment of the amount due to the *Contractor* as stated in the payment certificate.

6.11.3 The invoice states the following:

Invoice addressed to Transnet SOC Ltd.

Transnet SOC Limited's VAT No: 4720103177.

Invoice number.

The *Contractor's* VAT Number; and

The Contract number [insert relevant details].

The invoice contains the supporting detail [insert relevant details].

6.11.4 The invoice is presented either by post or by hand delivery.

6.11.5 Invoices submitted by post are addressed to:

**Transnet Rail Infrastructure Manager, RNC
Main Building
Cnr. North Reef and Jet Park Road
Elandsfontein, Boksburg
1601**

For the attention of Sphamandla Mginqi

Invoices submitted by hand are presented to:

**Transnet Rail Infrastructure Manager, RNC
Main Building
Cnr. North Reef and Jet Park Road
Elandsfontein, Boksburg
1601**

For the attention of Sphamandla Mginqi

The invoice is presented as an original.

6.11.6 The *Contractor* complies with the following PIRPMP

7.3.2.1 CONTRACTOR LIABILITY

- 1.1. The *Contractor* warrants that it will be liable to Transnet for any loss or damage caused by strikes, riots, lockouts or any labour disputes by and/or confined to the *Contractor's* employees, which loss will include any indirect or consequential damages.
- 1.2. The *Contractor* warrants that no negotiations or feedback meetings by the *Contractor's* employees shall take place on Transnet premises, whether owned or rented by Transnet.
- 1.3. *The Contractor* shall give notice to Transnet of any industrial action by the *Contractor's* employees immediately upon becoming aware of any actual or contemplated action that is or may be carried out on Transnet's premises, whether owned or rented, and shall notify Transnet of all matters associated with such action that may potentially affect Transnet.
- 1.4. The *Contractor* is responsible for educating its employees on relevant provisions of the Labour Relations Act which deal with industrial action processes, and the risks of non-compliance.
- 1.5. The *Contractor* is required to develop a Contingency Strike Handling Plan, which plan the *Contractor* is obliged to update on a three-monthly basis. The *Contractor* must provide Transnet with this plan and all updates to the Plan. The *Contractor* is responsible to communicate with its employees on site details of the plan.

2. INDUSTRIAL ACTION BY CONTRACTOR EMPLOYEES

- 2.1. In the event of any industrial action by the Contractor's employees, the Contractor is required to provide competent contingency resources permitted in law to carry out any of the duties that are or could potentially be interrupted by industrial action in delivering the Service.
- 2.2. The Contractor warrants that it will compensate Transnet for any costs Transnet incurs in providing additional security to deal with any industrial action by the Contractor's employees.
- 2.3. In the event of any industrial action by the Contractor's employees, the Contractor is obliged:
 - 2.3.1. To prepare and deliver to Transnet, within two (2) hours of the commencement of industrial action an Industrial Action Report. If the industrial action persists the Contractor is required to deliver the report at 8h30 each day.
 - 2.3.2. The Industrial Action Report must provide at least the following information:
 - 2.3.2.1. Industrial incident report,
 - 2.3.2.2. Attendance register,
 - 2.3.2.3. Productivity / progress to schedule reports,
 - 2.3.2.4. Operational contingency plan,
 - 2.3.2.5. Site security report,
 - 2.3.2.6. Industrial action intelligence gathered.
 - 2.3.3. The final Industrial Action Report is to be delivered 24 hours after finalisation of the industrial action.
 - 2.3.4. The management of the Contractor is required to hold a daily industrial action teleconference with personnel identified by Transnet to discuss the industrial action, settlement of the industrial action, security issues and the impact on delivery under the contract.
- 2.4. The resolution of any disputes or industrial action by the Contractor's employees is the sole responsibility of the Contractor.
- 2.5. Access to Transnet premises by the Contractor and its employees is only provided for purposes of the Contractor delivering its services to Transnet. Should the Contractor and its employees not, for any reason, be capable of delivering its services Transnet is entitled to restrict or deny access onto its premises and unless otherwise authorized; such person will be deemed to be trespassing.

SECTION 3

C3.2 CONTRACTOR'S WORKS INFORMATION

CHAPTER 1: GENERAL

A1.2 GENERAL REQUIREMENTS AND PROVISIONS

c) Legal and Contractual Requirements and responsibilities to the public

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

The Scope of Works contains the specifications that regulate the *Contractor's* compliance with the required Health and Safety legislation and requirements.

Part C: MEASUREMENT AND PAYMENT

C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

Insert the following paragraph:

"Should the combined total tendered for sub items C1.3.1.1, C1.3.1.2 and C1.3.1.3 exceed 15% of the tender sum (excluding VAT); the tenderer shall state his reasons in writing for tendering in this manner. If the tenderer should require additional compensation for his obligations under Chapter1 (over and above the total tendered for item C1.3 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."

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 2 months on his initial approved programme, in which case the application of this payment item shall be the same as for C1.3.1.2 (i.e. the total price offered for C1.3.1.3 is treated as a lump sum). Normal application continues once the *Contractor's* progress has returned to within the time set for the limitation."

Add the following paragraphs:

A *Contractor* who tenders zero for this pay item shall not be relieved of his statutory obligations. A nil rate offered shall be deemed not as an omission but as deliberate notice

that costs have been included in the tendered rates for individual items of work or in the other preliminary and general pay items.”

The following paragraph relates to the treatment of all pay items for which the unit of measurement is the month and shall become applicable only for use in calculations of approved extensions of time.

“All pay items for which the unit of measurement is "month" are deemed to be based on 23 working days per month.”

CHAPTER 8: PRIME COAT

A8.1.3 GENERAL

A8.1.3.1 Weather limitations

Replace last bullet point with the following:

- When at any position within the layer the moisture content of a granular base layer is more than 50% of the optimum moisture content determined according to TMH 1, Method A7. In the event of rain after priming, the base shall be allowed to dry out to meet the above moisture content requirement prior to surfacing.”

A8.1.4 DESIGN BY CONTRACTOR / PERFORMANCE BASED SYSTEMS

Replace paragraph with the following:

- “The type of prime and application rate best suited for the base shall be determined during construction. The *Contractor* shall provide about 20ℓ of each prime and apply it at different application rates with a brush on the base. Then engineer will then instruct the type of prime and application rate to be used. No payment shall be made for tests to determine the type of prime.
- Unless directed otherwise by the engineer or indicated on the drawings, the edges of the primed surface shall be 150mm wider than the edges of the surfacing.”

A8.1.5 MATERIALS

A8.1.5.1 Bituminous material

Add the following:

- “Tar based products shall not be allowed on this project.”

A8.1.8 WORKMANSHIP

A8.1.8.2 Testing

Add the following:

- Any deviation outside these limits shall not be paid for; however, the engineer shall have the right to instruct the *Contractor* to make up any deficiency, or blind excessive prime without additional payment. Where so instructed, the material for blinding shall consist of approved, but shall consist of screened 4,75mm nominal single size aggregate. The use of crusher dust for blinding shall not be permitted. If under-spraying occurs, and it is accepted by the engineer, only the actual quantities applied shall be paid for.”

Add the following:

- “No payment will be made if this condition is not adhered to. The *Contractor* shall provide, at his cost, representative samples of every batch of prime delivered onto site.”

CHAPTER 9: ASPHALT LAYERS

9.1 ASPHALT LAYERS

A9.1.5: MATERIALS

A9.1.5.2 Bituminous binders for asphalt mixes

(i) Conventional binders

Add the following:

- “The binders to be used shall be as follows:
 - (a) Continuously graded surfacing course: A-P1 Modified bitumen.
 - (b) Continuously graded base: A-P1 Modified bitumen”.

(iii) Homogeneous modified binders

Replace the last sentence with:

- “The modified binder to be used on this project shall be **A-P1**.”

The homogeneous modified binder shall be manufactured according to the guidelines contained in “Technical Guideline: The use of Modified Bituminous Binders in Road Construction (TG 1-2007): Asphalt Academy”. The base bitumen shall conform to SANS 4001-BT1:2012, or a blend of SANS 4001-BT1:2012

grades. The type as well as percentage of modifier is not prescribed, however the *Contractor* shall indicate in the Pricing Schedule what polymer he shall be using.

The properties of the homogeneous modified binder shall comply with the relevant requirements for binder class **A-P1** as listed in table below.

Property	Unit	Test Method	Binder Class		
			A-E1	A-E2	A-P1
Softening Point ¹	°C	MB-17	55-65	65-85	63-73
Dynamic Viscosity@165°C	Pa.s	MB-18	≤0.6	≤0.6	≤0.55
Force Ductility @ 5°C	N	EN 13703	Report ^{*3}	Report ^{*3}	Report ^{*3}
Elastic Recovery @ 15°C	%	MB-4	>50	>60	>30
Storage Stab @ 160°C)	°C	MB-6	≤5	≤5	≤5
Flash Point	°C	ASTM: D93	≥230	≥230	≥230
Creep Stiffness	MPa	AASHTO:TP1	Report	Report	Report
Properties after ageing (RTFOT)			MB-3		
Diff in Softening Point	°C	MB-17	-2 to +8	-2 to +8	-2 to +8
Elastic Recovery @ 15°C	%	MB-4	>40	>50	Report ^{*2}
Mass change	%	MB-3	≤1.0	≤1.0	≤1.0
Dynamic Viscosity @ 165°C	Pa.s	MB-18	Report ^{*2}	Report ^{*2}	Report ^{*2}

* Notes:

1. The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For referencing purposes no stirrers should be used.
2. No limits are given and the values should be recorded for reporting purposes only as they may be used in future specifications.
3. No values given but the test can be used to rank various binders according to their low temperature cohesion properties

A9.1.5.4 Aggregates

Add the following paragraph to the introductory description:

- “Asphalt mixes shall be manufactures using different individual single size coarse aggregates fractions and crushed fine aggregates blended to conform to the specified grading requirements. The use of natural sands shall only be permitted if approved by the engineer and shall be limited to a maximum of 5% for continuously graded mixes. All aggregate in excess of 4,75mm shall consist of individual nominal single sized aggregate. For stone mastic asphalt mixes, all aggregate fractions in excess of 2,36mm shall consist of individual single size fractions. The *Contractor* shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional on-site screening. No additional payment shall be made for screening aggregate. The use of run of crusher type materials shall not be permitted.”

a) Aggregate properties

Add the following sentence:

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

c) Fine aggregate grading

No natural sand may be used in asphalt mixes without the written permission of the engineer.

d) Combined aggregate grading

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

- “The grading limits for the combined aggregate grading for the asphalt base shall be as specified in table 4202/6: Continuously graded 26,5m maximum.
- The grading limits for the combined aggregate grading for the asphalt surfacing shall be as specified in table 4202/7: Continuously graded coarse grade.
- The grading limits for the combined aggregate grading for the stone mastic asphalt shall be as specified in table B4202/10. In addition to the specified grading limits, the percentage by mass of aggregate smaller than 0,005mm, when determined in accordance with THM 1 Method A6, shall be less than 1,0 of the combined aggregates excluding the active filler added in the approved mix. The engineer may request a reconsideration of blends to achieve any grading within the relevant envelope in order to improve certain mix properties.

Add the following new subitem:

“(i) Moisture content

The moisture content of aggregates, sampled from the cold feed belt, shall not exceed the following limits at the time that it is introduced into the mix:

- Coarse aggregate 2%
- Fine aggregate..... 4%

(ii) Deleterious Materials

Testing for the possible presence of deleterious materials in both the coarse and fine aggregates to be used in the asphalt mixes shall be carried out in accordance with SABS Method 1243: 1994, "Deleterious Clay Content of the Fines in aggregate (methylene blue adsorption test)". The methylene blue adsorption of the materials shall be a maximum of 0,6%.

(iii) Soundness

The resistance of aggregates to weathering is to be determined by the test procedure outlined in AASHTO Test Method T104 "Soundness of Aggregate by Use of Sodium Sulphate or Magnesium Sulphate". The tests are to be carried out on both coarse and fine aggregate and shall be carried out on materials immersed in separate solutions of sodium sulphate, magnesium sulphate, ethylene glycol and natural water. The Engineer will decide the sieve intervals on which the tests shall be carried out. The total percentage loss of material after five wet/ dry cycles shall not be greater than 10 percent for each test.

A9.1.5.5 Fillers

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

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

Add the following after the last paragraph:

- "For tender purposes the active filler shall be hydrated lime".

A9.1.6 CONSTRUCTION EQUIPMENT

A9.1.6.1 General

Add the following:

Plant and vehicles used at the laying site shall be free from oil, fuel and hydraulic fluid leaks. Any items of plant or vehicle showing signs of these leaks shall immediately be removed from the site.

A9.1.6.2 Mixing plant

The requirement that the mixing plant be used exclusively for work on this project will be relaxed provided the *Contractor* is able to satisfy the engineer with regard to the following:

- Mixing on any one day continues without interruption until the project requirements for that day are satisfied.

- Progress on the project is not affected by utilisation of the plant for other projects.

- Designated materials on site are used exclusively on this project.

A9.1.6.7 Vehicles

Replace the second paragraph with the following:

“To minimize temperature loss all vehicles used for transporting asphalt to the site shall be fitted with thermal asphalt covers (canvas covers not acceptable) irrespective of the prevailing climatic conditions or distance of transport.”

Add the following subclause:

A9.1.6.8 Material transfer vehicle

Asphalt shall be transferred from the haul trucks to the paver by means of a materials storage and transfer vehicle (“shuttle buggy”) and no material shall be transferred directly from the haul vehicle into the paver.

The material storage and transfer vehicle must be able to store and transfer hot-mixed asphalt material from a truck to a paver to ensure continuous paving. It must contain an anti-segregation auger which remixes materials just before they are delivered to the asphalt paver.”

b) Moisture

Amend the last paragraph as follows:

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

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

c) Surface Requirements

(iii) Tack Coat

Add the following paragraph:

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

A9.1.7 EXECUTION OF THE SERVICES

A9.1.7.1 Production of the mixture

a) Mixing and storage temperatures

Add the following:

(i) The temperature of the aggregates in the mixer immediately prior to the addition of the binder shall not be greater than the binder temperature plus 10° C.

(ii) The temperature of mixed asphalt in the mixer shall be within the range of temperature at which the binder has a dynamic viscosity of between 0,170 Pa.s and 0,200 Pa.s and shall not exceed a maximum temperature of 150oC for the conventional binders and 170oC for the modified binders.

c) Mixing utilising drum plants

(ii) Using drum-type mixer plants

Add the following:

“Pre-blending of aggregate fractions shall not be permitted and the *Contractor* shall ensure that sufficient cold-feed bins are installed to accommodate each individual aggregate fraction, including the filler.”

A9.1.7.4 Transporting of asphalt

Add the following paragraph:

“Special precautions shall be taken by the *Contractor* to ensure that the temperature of the total mass of asphalt does not decrease by more than 10oC from point of dispatch to the point where it is to be paved. The use of the thermal blankets is obligatory.

The *Contractor* shall ensure that trucks used to haul asphalt are not overloaded and the legal axle loads are not exceeded. Before any asphalt can be transported, the *Contractor* must provide the engineer with the certified carrying capacity of each truck intended for the purpose of transporting the mix. The *Contractor* shall provide the engineer with a weighbridge ticket before discharging into the paver hopper.

ANY truck that is overloaded shall not be allowed to discharge its load and shall return to the depot/ batching plant for adjustment of the load. In addition, a penalty shall be applied for the overload.”

A9.1.7.6 Placing the asphalt

Add the following:

Paving of asphalt base layers thicker than 90mm shall be carried out in layers of equal thickness not exceeding a maximum thickness of 90mm.

Paving of asphalt surfacing layers thicker than 50mm shall be carried out in layers of equal thickness not exceeding a maximum thickness of 50mm.

A9.1.7.9 Cutting of joints

Add the following:

Where the difference in level between the new work and the existing road surface exceeds 20mm, joints shall be treated as follows:

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

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

Cutting the joint and the removal of the asphalt tapers shall take place immediately prior to paving the adjacent area and after closure to traffic.

A9.1.8 WORKMANSHIP

A9.1.8.5 Grading

Replace Table A9.1.8-4: with:

TABLE B4213/1: AGGREGATE GRADING TOLERANCES

Size of aggregate passing Sieve size (mm)	Permissible deviation from target grading (%)
28	± 5
20	± 5
14	± 5
10	± 5
7,1	± 5
5	± 4
2	± 4
1	± 4

0,600	± 4
0,300	± 3
0,150	± 2
0,075	± 1*

* When statistical methods are applied the permissible deviation for the 0,075 fraction is $\pm 2\%$.

A9.1.8.8 Sampling

a) Component and mix sampling

Add the following:

Sampling for acceptance and process control for asphalt mixes shall be carried out in accordance with the methods shown in Table B4214/1.

TABLE B4214/1: SAMPLING OF ASPHALT MIXES

Sampling requirements	Purpose of sample	TMH5, Method MB7 Sub-method
Asphalt mixes	Briquettes	4.1 at the mixer
	Aggregate grading and binder content, binder penetration, binder viscosity, binder softening point, and binder ductility on recovered binder.	4.4 behind the paver

b) Coring of completed layers

Add the following:

“A suitable coring machine shall be available on a daily basis when asphalt paving is taking place. Cores shall only be drilled, when the road temperature is 20°C or less. Core holes shall be filled with hot mix asphalt and compacted, all within 24 hours of the core being drilled. Coring shall be carried out within 48 hours after the paving has been completed and supplied to the engineer. The test results of cores shall be submitted to the engineer within 24 hours after coring.”

a) Routine inspection and tests

Add the following paragraphs:

“The *Contractor* shall keep accurate records of:



- (i) The position where every truckload of asphalt is paved (chainage, lane, time and date).
- (ii) The temperatures of the asphalt in the trucks both at the mixing plant and at the paving equipment immediately prior to discharging the load.
- (iii) The truck and load number from which control samples are taken. All samples taken shall be appropriately numbered.

Test results and measurements will be assessed in accordance with the provisions of section 8200.”

Add the following sub-clause:

PART C: MEASUREMENT AND PAYMENT

Add the following sub-items to item C9.1.3:

C9.1.3 Application of bond coat

- (a) Applied to underlying layer..... litre (l)
- (b) Applied to the edges of surrounding layers by hand brush litre (l)

Amend the following payment item:

C9.1.13 Coring of asphalt layers..... number (no)

Amend the 1st sentence by adding the following after the word “drilled...”
“irrespective of depth of core.”

Add the following to the last paragraph:

“No separate payment shall be made for the provision of a core drill.”

2. Drawings

Drawing number	Revision	Title
N/A		

3. Constraints on how the Contractor Provides the Works

Access into the Port and to the work site.

Works are in the operational area, inside the Port of Richards Bay.

4. Requirements for the programme

A programme is required for this tender.

- The programme for the works to be submitted in MS Projects 2013 format

- the *starting date, access dates*, Key Dates and Completion Dates,
- planned Completion,
- the order and timing of the operations which the *Contractor* plans to do in order to Provide the Works,
- the order and timing of the work of the *Employer* and Others as last agreed with them by the Contractor or, of not so agreed, as stated in the Works Information,
- the dates when the *Contractor* plans to meet each Condition stated for the Key Dates and to complete other work needed to allow the *Employer* and Others to do their work,
- provisions for
 - float,
 - time risk allowances,
 - health and safety requirements and
 - the procedures set out in this contract.

5. Services and other things provided by the *Employer*

Item	Date by which it will be provided
Latrine facilities	Current
Water	Current
Electricity	Current