TRANSNET

NEC3 Engineering and Construction Contract (ECC)

entered into by and between

Transnet SOC Ltd
Registration Number 1990/000900/30
(hereinafter referred to as the "*Employer*")

and

PENDING

Tender Number **CPT 1115374.001**
Description **UPGRADE OF FIRE PROTECTION SYSTEM AT TANKER BERTH, PORT OF EAST LONDON**

CONTRACT DOCUMENTS

Form of Offer and Acceptance

Contract Data

- **Part One – Data provided by the *Employer***
- **Part Two – Data provided by the *Contractor***

Conditions of Contract (3rd edition – available separately)

Pricing Data

Works Information

Site Information

Appendices

Contents

Number **Heading**

T1.1 Tender Notice and Invitation to Tender

Transnet SOC Ltd invites tenders for the **UPGRADE OF FIRE PROTECTION SYSTEM AT TANKER BERTH, PORT OF EAST LONDON**

Tenderers should have a CIDB contractor grading designation of 6 SF or 6 ME or higher.

Potentially emerging enterprises who satisfy criteria stated in the Tender Data may submit tender offers.

Preferences are offered to tenderers who have a valid SANAS accredited BBBEE Certificate.

The physical address for collection of tender documents is **Transnet Freight Rail RME, Bellville Square, off Robert Sobukwe Road, behind Transnet Park, Bellville South**

Documents may be collected during working hours after **09:00 on Monday, 25 August 2014.**

Queries relating to the issue of these documents may be addressed to

Mr/Ms	Estelle van Wyk
Tel No	(021) 940 1901
Fax No.	021 940 1940
Vax No.	086 646 4092
Email	estelle.vanwyk@transnet.net

A compulsory clarification meeting with representatives of the Employer will take place on Monday, 01 September 2014 at 10:00hrs. Tenderers are to meet at the Tanker Berth, Port of East London. Tenderers to bring own PPE (personal protective equipment) and I.D. document.

The closing time for receipt of tenders is **10:00hrs on Tuesday, 23 September 2014.** Telegraphic, telephonic, facsimile, e-mail and late tenders will not be accepted. **The address were tenders will close is behind Reception, Transnet Park, Robert Sobukwe Road, Bellville**

Tenders may only be submitted on the tender documentation that is issued.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

Transnet fully subscribes to Government's New Growth Path objectives and Supplier Development commitments by Respondents will consequently feature prominently in the evaluation and award of this business.

Transnet urges Clients, Suppliers and Service Providers to report any acts of fraud and/or instances of corruption to Transnet's TIP-OFFS ANONYMOUS on 0800 003 056 or Transnet@tip-offs.com

ACKNOWLEDGMENT OF RECEIPT OF DOCUMENTS

AND INTENTION TO TENDER

(To be returned within 3 days after receipt)

FAX TO:	Transnet Freight Rail RME	Project No.:	1115374
	Fax No. 086 646 4092	RFQ No.:	CPT 1115374.001
	Attention: Estelle van Wyk	Closing Date:	**Tuesday, 23 September 2014**

For: UPGRADE OF FIRE PROTECTION SYSTEM AT TANKER BERTH, PORT OF EAST LONDON

		Check
We:	**Do wish to tender** for the work and shall return our tender by the due date above	**Yes** ☐
	Do not wish to tender on this occasion and herewith return all your documents received	**No** ☐

REASON FOR NOT TENDERING:

_____

_____

_____

_____

_____

COMPANY'S NAME, ADDRESS, CONTACT, PHONE AND TELEFAX NUMBERS

_____

_____

_____

_____

_____

SIGNATURE : _____

TITLE: _____

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (January 2009) as published in Government Gazette No 31823, Board Notice 12 of 2009 of 30 January 2009, subsequently amended (May 2010), Board Notice 86 of 2010. (See www.cidb.org.za)

The Standard Conditions of Tender make several references to Tender Data for details that apply specifically to this tender. This Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

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

Clause		Data
F.1.1	The *Employer* is	**Transnet SOC Ltd** **(Reg No. 1990/000900/30)**
F.1.2	The tender documents issued by the *Employer* comprise:	
	Part T: The Tender	
	Part T1: Tendering procedures	T1.1 Tender notice and invitation to tender T1.2 Tender data
	Part T2 : Returnable documents	T2.1 List of returnable documents T2.2 Returnable schedules
	Part C: The contract	
	Part C1: Agreements and contract data	C1.1 Form of offer and acceptance C1.2 Contract data (Part 1 & 2)
	Part C2: Pricing data	C2.1 Pricing instructions C2.2 Bill of Quantities
	Part C3: Scope of work	C3 Works Information
	Part C4: Site information	C4 Site information
F.1.4	The Employer's agent is:	Transnet Freight Rail RME
	Name:	Estelle van Wyk
	Address:	Bellville Square, off Modderdam Road, behind Transnet Park, Bellville South
	Tel No.	(021) 940 1901
	Fax No.	086 646 4092
	E – mail	estelle.vanwyk@transnet.net
F1.6	The competitive negotiation procedure may be applied.	

F.2.1 Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:

1. Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 6 SF or 6 ME or higher class of construction work, are eligible to have their tenders evaluated.

   Joint ventures are eligible to submit tenders provided that:

   1. every member of the joint venture is registered with the CIDB;
   2. the lead partner has a contractor grading designation in the 6 SF or 6 ME or higher class of construction work; and
   3. the combined *Contractor* grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a *Contractor* grading designation determined in accordance with the sum tendered for a 6 SF or 6 ME or higher class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

2. Pre-Qualifying Quality (Functionality) Criteria

Only those tenderers who attain the minimum number of evaluation points for functionality will be eligible for further evaluation, failure to meet the minimum threshold will result in the tender being disqualified and removed from further consideration

The quality criteria and maximum score in respect of each of the criteria are as follows:

Quality criteria	**Maximum number of points**
Program	15
Management and CV's of Key People	10
Health and Safety Plan	15
Environmental Plan	15
Quality Plan	10
Previous Experience	15
Method Statement	20
Maximum possible score for quality (W_Q)	**100**

Quality shall be scored by not less than three evaluators and averaged in accordance with the following schedules:

- T2.2-2 Programme
- T2.2-7 Management and CV's of key persons
- T2.2-20 Quality
- T2.2-21 Environmental
- T2.2-22 Health and Safety
- T2.2-25 Previous Experience
- T2.2-37 Method Statement

The minimum number of evaluation points for quality is : 60

Each evaluation criteria will be assessed in terms of Five indicators – no response, poor, satisfactory, good and very good. Scores of 0, 40, 70, 90 or 100 will be allocated to poor, satisfactory, good and very good, respectively. The scores of each of the evaluators will be averaged, weighted and then totalled to obtain the final score for quality, unless scored collectively. (See CIDB Inform Practice Note #9)

Note: Any tender not complying with the above mentioned stipulation, numbered 1 and 2 will be regarded as non-responsive and will therefore not be considered for further evaluation

F.2.7	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.
F.2.12	No alternative tender offers will be considered
F.2.13.3	Parts of each tender offer communicated on paper shall be as an original and 1 copy.
F.2.13.5 F2.15.1	The Employer's details and address for delivery of tender offers and identification details that are to be shown on each tender offer package are: Location of tender box: **ON THE GROUND FLOOR BEHIND RECEPTION** Physical address: **6TH FLOOR TRANSNET PARK ROBERT SOBUKWE ROAD BELLVILLE** Identification details: The tender documents must be submitted in a sealed envelope labelled with: ▪ The Project Name: Upgrade of fire protection system at Tanker Berth, Port of East London ▪ CPT 1115374.001 ▪ The Tender Description: Upgrade of fire protection system at Tanker Berth, Port of East London Documents must be marked for the attention of: **THE SECRETARIAT, TRANSNET ACQISITION COUNCIL** Prior arrangement on the submittal of large tender documents should be made with Contract Specialist.
F.2.13.9	Telephonic, telegraphic, facsimile or e-mailed tender offers will not be accepted.
F.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is 12 weeks
F.2.20	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. (The format is included in Part T2.2 of this procurement document).

F.2.23 The tenderer is required to submit with his tender:

1. an **original** or a **certified copy** of a **valid** Tax Clearance Certificate issued by the South African Revenue Services;
2. A valid SANAS B-BBEE accreditation certificate,
3. All Returnable Documents listed in Section T2.1.

F.3.4 The time and location for opening of the tender offers are:
Time 10:00 on Tuesday, 23 September 2014
Location: Ground Floor behind reception, Transnet Park, Robert Sobukwe Road, Bellville

F.3.11.3 The procedure for the evaluation of responsive tenders is Method 2.

The financial offer will be scored using Formula 2 (option 1) in Table F.1 where the value of W_1 is:

90 where the financial value inclusive of VAT of one or more responsive tenders received have a value in excess of R 1,000 000

Up to 100 minus W_1 tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed.

Should the BBBEE rating not be provided, Transnet reserves the right to award no points and/or declare the tender void. Transnet also reserves the right to carry out an independent audit of the tenderers scorecard components at any stage from the date of close of the tenders until completion of the contract. Tenderers with no accreditation will score zero points for preferencing.

F.3.13 Tender offers will only be accepted if:

a) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;

b) the tenderer or any of its directors/shareholders 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;

c) the tenderer does not appear on Transnet list for restricted tenderers.

d) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract;

e) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer;

f) the Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.

F.3.17 The number of paper copies of the signed contract to be provided by the Employer is 1 (one).

T1.3 CIDB Standard Conditions of Tender

January 2009 Edition

As published in Annexure F of the CIDB Standard for Uniformity in Construction Procurement in Board Notice 12 of 2009 in Government Gazette No 31823 of 30 January 2009

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.

Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

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 in the tender process; and

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, 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

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 llanguage. 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 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

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

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 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. 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 at which tenderers may familiarise themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five 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 theclosing 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. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

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.2.13 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. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

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 package 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.

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.

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.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

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 posting 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

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.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

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 Dispose of samples of materials provided for evaluation by the employer, where required.

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, etc.

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 the 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 tenderers who drew procurement documents.

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 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place

stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

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 quality 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 quality evaluation more than the minimum number of points for quality 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 quality.

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

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.

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.

F.3.8.3 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.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

F.3.9.2 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.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

F.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

a) 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 line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

b) 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 govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

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

Appoint an evaluation panel of not less than three persons. 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.

F.3.11.2 Method 1: Financial offer

In the case of a financial offer:

a) Rank tender offers from the most favourable to the least favourable comparative offer.

b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.

c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.3 Methods 2: Financial offer and preference

In the case of a financial offer and preferences:

a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.

b) Calculate the total number of tender evaluation points *(TEV)* in accordance with the following formula:

TEV = NFO + NP

where: *NFO* is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

NP is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

c) Rank tender offers from the highest number of tender evaluation points to the lowest.

d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.

b) Calculate the total number of tender evaluation points *(TEV)* in accordance with the following formula:

TEV = NFO + NQ

where: *NFO* is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

NQ is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

c) Rank tender offers from the highest number of tender evaluation points to the lowest.

d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.

b) Calculate the total number of tender evaluation points *(TEV)* in accordance with the following formula, unless otherwise stated in the Tender Data:

$$TEV = NFO + NP + NQ$$

where: *NFO* is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
NP is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.
NQ is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

c) Rank tender offers from the highest number of tender evaluation points to the lowest.

d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.6 Decimal places

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$NFO = W1 \times A$$

where: *NFO* is the number of tender evaluation points awarded for the financial offer.
W1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.
A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of *A*

Formula	Comparison aimed at achieving	Option 1[a]	Option 2 [a]
1	Highest price or discount	$A = (1 + (\frac{P - Pm}{Pm}))$	$A = P / Pm$

2	Lowest price or percentage commission / fee	$A = (1 + (\frac{P - Pm}{Pm}))$	$A = Pm / P$

[a] *Pm* is the comparative offer of the most favourable comparative offer.

P is the comparative offer of the tender offer under consideration.

F.3.11.8 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 provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and subcriteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$NQ = W2 \times SO / MS$

where: *SO* is the score for quality allocated to the submission under consideration;
MS is the maximum possible score for quality in respect of a submission; and
W2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

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 unacceptable commercial 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, 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.

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 unsuccessful tenderers

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 offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

T2.1 List of Returnable Documents

1. Returnable Schedules

T2.2-1	Changes to tender documents
T2.2-2	Programme
T2.2-3	Risk Elements
T2.2-4	Availability of equipment and other resources
T2.2-7	Management and CV's of key persons
T2.2-8	Schedule of proposed Subcontractors/consultants
T2.2-9	Insurance provided by the Contractor
T2.2-10	Site Establishment requirements
T2.2-14	Authority to submit tender
T2.2-15	Certificate of attendance at tender clarification meeting
T2.2-16	Record of addenda to tender documents
T2.2-17	Compulsory Enterprise Questionnaire
T2.2-20	Quality Plan
T2.2-21	Environmental Management Plan
T2.2-22	Health and Safety Plan
T2.2-25	Previous experience
T2.2-27	Broad-Based Black Economic Empowerment (BBBEE)
T2.2-31	Supplier Code of Conduct
T2.2-33	Mutual Non-Disclosure Agreement
T2.2-36	RFP Declaration Form
T2.2-37	Method Statement
T2.2-38	Declaration of Understanding (Environmental and Health & Safety)
T2.2-43	RFP – Breach of Law
T2.2-50	Preference Points Claim Form
T2.2-51	Certificate of Acquaintance with the Tender Documents

This schedule is required for payment purposes only:

T2.2-34	Supplier Declaration Form

2. C1.1 Offer portion of Form of Offer & Acceptance

3. C1.2 Contract Data Part 2: Data by *Contractor*

4. C2.2 Bill of Quantities

T2.2 Returnable Schedules

T2.2-1	Changes to tender documents
T2.2-2	Programme
T2.2-3	Risk Elements
T2.2-4	Availability of equipment and other resources
T2.2-7	Management and CV's of key persons
T2.2-8	Schedule of proposed Subcontractors/consultants
T2.2-9	Insurance provided by the Contractor
T2.2-10	Site Establishment requirements
T2.2-14	Authority to submit tender
T2.2-15	Certificate of attendance at tender clarification meeting
T2.2-16	Record of addenda to tender documents
T2.2-17	Compulsory Enterprise Questionnaire
T2.2-20	Quality Plan
T2.2-21	Environmental Management Plan
T2.2-22	Health and Safety Plan
T2.2-25	Previous experience
T2.2-27	Broad-Based Black Economic Empowerment (BBBEE)
T2.2-31	Supplier Code of Conduct
T2.2-33	Mutual Non-Disclosure Agreement
T2.2-36	RFP Declaration Form
T2.2-37	Method Statement
T2.2-38	Declaration of Understanding (Environmental and Health & Safety)
T2.2-43	RFP – Breach of Law
T2.2-50	Preference Points Claim Form
T2.2-51	Certificate of Acquaintance with the tender documents

T2.2-1 : Changes to Tender Document

Changes to the tender documents are only allowed if a main tender complying fully with the tender documents has also been provided.

Do not return this schedule if no alternative tender is submitted.

The Conditions of Tender state that the tenderer may:

F.2.12.1 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements the tenderer proposes.

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.

Having examined the criteria stated in the Tender Data for this tender the proposed changes to the tender documents are:

Document No.	Subject of the proposed change	Propose to change to:

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-2: Programme

Note to tenderers:

Programme

Please provide your proposed programme showing the following:

- Prepare Safety File in accordance with Health and Safety Act 85
- Workshop drawings
- Off Site Fabrication of steel pipes
- Safety Induction
- Establishment on site
- Delivery of Materials to Site
- Sorting and Assembling
- Installation of Pump House piping
- Installation of piping from Pump House to Foam House
- Connection of Pumps
- Modifications and connections
- Commissioning of Pumps
- De-commission and remove old fire system
- Install new Jojo tanks
- Foam House piping
- Final piping and connection
- De-establish

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-3 : Risk Elements

Tenderers to review the potential risk elements associated with the Project. The risk elements are to be priced separately in this Schedule. If No Risks are identified "No Risks" must be stated on this schedule.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-4 : Availability of Equipment and Other Resources

Tenderers to submit a list of all Equipment and other resources that he proposes to use to execute the work as described in the Works Information, as well as the availability and details of ownership for each item.

Number of Equipment	Equipment Type – Description	Hourly Rate

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-7 : Management & CV's of Key Persons – ECC[1]

Please describe the management arrangements for the *works*.

Submit the following documents as a minimum with your tender document:

1. An organisation chart showing on site and off-site management (including the key people you have identified in the Contract Data Part two and identify the required legal appointments.)
2. CV's for people proposed for all identified posts including Safety Officer and Quality Assurance Representative with the relevant attached certificates / qualifications
3. Details of the location (and functions) of offices from which the *works* will be managed.
4. Details of the experience of the staff who will be working on the *works* with respect to:
   - Working with the NEC3 Engineering and Construction Contract Option chosen for this contract. If staff experience of these matters is limited, an indication of relevant training that they have attended would be helpful.
5. An explanation of how you propose to allocate adequate resources to enable you to comply with the requirements and prohibitions imposed on you by or under the statutory provisions relating to health and safety.

Attached submissions to this schedule:

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Signed ..... Date .....

Name ..... Position .....

Tenderer .....

[1]NEC3 Engineering & Construction Contract (June 2005)(amended June 2006).

T2.2-8 : Schedule of Proposed Subcontractors / sub consultants

We notify you that it is our intention to employ the following subcontractors / sub consultants for work in this contract.

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors / Sub consultants in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.
1.			
2.			
3.			
4.			

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-9 : Insurance provided by the *Contractor*

Clause 84.1 in NEC3 Engineering & Construction Contract (June 2005)(amended June 2006) requires that the *Contractor* provides the insurance stated in the insurance table except any insurance which the *Employer* is to provide as stated in the Contract Data.

Please provide the following details for insurance which the *Contractor* is still to provide. Notwithstanding this information all costs related to insurance are deemed included in the tenderer's rates and prices.

Insurance against (See clause 84.2 of the ECC)	**Name of Insurance Company**	**Cover**	**Premium**
Loss of or damage to the *works*, Plant and Materials			
Loss of or damage to Equipment			
Liability for loss of or damage to property (except the *works*, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract.			
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract			
(Other)			

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-10 : Site Establishment / Laydown Area

Tenderers to indicate their Site establishment and/or laydown area requirements:

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-14 : Authority to submit a Tender

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for his category of organisation or alternatively attach a certified copy of a company / organisation document which provides the same information for the relevant category as requested here.

A - COMPANY	B - PARTNERSHIP	C - JOINT VENTURE	D - SOLE PROPRIETOR

A. Certificate for Company

I,_____, chairperson of the board of directors of _____ _____., hereby confirm that by resolution of the board taken on _____ (date), Mr/Ms _____, acting in the capacity of _____, was authorised to sign all documents in connection with this tender offer and any contract resulting from it on behalf of the company.

Signed _____ Date _____

Name _____ Position Chairman of the Board of Directors

B. Certificate for Partnership

We, the undersigned, being the **key partners** in the business trading as _____ _____ hereby authorise Mr/Ms _____, acting in the capacity of _____, to sign all documents in connection with the tender offer for Contract _____ and any contract resulting from it on our behalf.

Name	Address	Signature	Date

NOTE: This certificate is to be completed and signed by the full number of Partners necessary to commit the Partnership. Attach additional pages if more space is required.

C. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _, an authorised signatory of the company _ , acting in the capacity of lead partner, to sign all documents in connection with the tender offer for Contract _ _ _ _ _ _ _ _ and any contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of all the partners to the Joint Venture.

Furthermore we attach to this Schedule a copy of the joint venture agreement which incorporates a statement that all partners are liable jointly and severally for the execution of the contract and that the lead partner is authorised to incur liabilities, receive instructions and payments and be responsible for the entire execution of the contract for and on behalf of any and all the partners.

Name of firm	Address	Authorising signature, name (in caps) and capacity

D. Certificate for Sole Proprietor

I, _____, hereby confirm that I am the sole owner of the business trading as _____.

Signed _____ Date _____

Name _____ Position Sole Proprietor

T2.2-15 : Certificate of Attendance at Tender Clarification Meeting

This is to certify that

_____ (Tenderer)

of _____ (address)

was represented by the person(s) named below at the compulsory tender clarification meeting

Held at:	Tanker Berth, West Bank, Port of East London	
On (date)	Monday, 01 September 2014	Time: 10:00

As the tenderer we undertake that by said persons attending the clarification meeting we have made it our business to familiarise ourselves with all aspects of the works / service / supply specified in the tender documents in order for us to take account of everything necessary to provide a responsive tender offer and to compile our rates and prices included in the tender offer.

We further understand that in addition to any queries raised on behalf of us at the meeting we may still approach the *Employer / Purchaser*'s Representative to request clarification of the tender documents until no later then five working days before the tender closing time stated in the Tender Data.

Particulars of person(s) attending the meeting:

Name _____ Signature _____

Capacity _____

Name _____ Signature _____

Capacity _____

Attendance of the above persons at the meeting was confirmed by the procuring organisation's representative as follows:

Name _____ Signature _____

Capacity _____ Date & time _____

T2.2-16 : Record of Addenda to Tender Documents

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attach additional pages if more space is required.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-17 : Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise: . . . . . .

Section 2: VAT registration number, if any: . . . . . .

Section 3: CIDB registration number, if any: . . . . . .

Section 4: Particulars of sole proprietors and partners in partnerships

Name	Identity number	Personal income tax number

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number . . . . . .

Close corporation number . . . . . .

Tax reference number . . . . . .

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

Name of spouse, child or parent	**Name of institution, public office, board or organ of state and position held**	**Status of service (tick appropriate column)**	
		Current	**Within last 12 months**

*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;

ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;

iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;

iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and

v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed ..... Date .....

Name ..... Position .....

Enterprise name .....

T2.2-20 : Quality Plan

Due consideration must be given to the deliverables required to execute and complete the contract as per the Quality Management Standard stated in the Works Information and should include but not be limited to:

1. Project Quality Plan for the contract.
2. The Contractor's Quality Policy.
3. Index of procedures to be used during the contract.
4. Audit Schedule for internal and external audits during the contract.
5. ISO 9001 certification.
6. Typical Quality Manual.
7. Typical Quality Control Plan.
8. Typical data book index.

Attached submissions to this schedule:

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Signed ..... Date .....

Name ..... Position .....

Tenderer .....

T2.2-21 Evaluation Schedule: Environmental Management Plan

1. The tenderer must provide their environmental management policy and standard environmental management plan describing relevant roles and responsibilities, and how potential environmental impacts will be identified and managed including the monitoring and recording thereof.

   The following documents are key -

   1) Transnet SOC Limited – SHEQ Policy,
   2) Transnet SOC Limited – HSE Policy,
   3) ENV-STD-001 Rev 0 Construction Environmental Management Plan (CEMP); and
   4) ENV-STD-002 Rev 0 Standard Environmental Specifications (SES).

2. By signing this Tender Schedule, the tenderer confirms that they will comply with the above policy statements and environmental specifications.

3. The tenderer must demonstrate the required level of expertise and experience to overall construction environmental management process.

4. Organisational charts and key safety, health and environmental (SHE) staff CVs showing staff competencies, together with qualifications.

5. The tenderer must explain own internal environmental management system (EMS) approach and attach EMS manual, including its own environmental management policy, as part of the overall quality management system.

6. Tender to provide a signed declaration of understanding as part of the returnable acknowledging understanding thereof and the budget provision for the implementation of environmental management requirements.

   By signing this Tender Schedule, the tenderer confirms that they will **comply** with the above requirements and in particular Transnet **policy statements and environmental specifications**.

Attached submissions to this schedule:

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Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-22 : Health and Safety Plan

Submit the following documents as a minimum with your tender:

1. Valid letter of good standing with the Department of Labour
2. Roles and responsibilities of legal appointees.
3. Safety Officer role and responsibility.
4. Safety, Health & Environmental Policies.
5. Overview of Tenderer's SHE system for project.
6. Overview of RA process and examples.
7. List of job categories for project and competencies required per category and plan to address and meet outstanding competencies.
8. Six months synopsis of SHE incidents, description, type and action taken.
9. Overview of selection process of subcontractors.
10. SHE challenges envisaged for the project and how they will be addressed and overcome.
11. Signed statement acknowledging receiving and budget provision for SHE pack requirements.
12. Complete and return with tender documentation the Contractor Safety Questionnaire (Attachment No 8) included in the Health and Safety Specification HAS-STD-0001 Rev 00.
13. Construction Safety File (Index)
14. Construction Safety Work Method Statement

Attached submissions to this schedule:

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Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Health, Safety Questionnaire

1. SAFE WORK PERFORMANCE

1A. Injury Experience / Historical Performance - Alberta

Use the previous three years injury and illness records to complete the following:

Year			
Number of medical treatment cases			
Number of restricted work day cases			
Number of lost time injury cases			
Number of fatal injuries			
Total recordable frequency			
Lost time injury frequency			
Number of worker manhours			

1 - Medical Treatment Case	Any occupational injury or illness requiring treatment provided by a physician or treatment provided under the direction of a physician
2 – Restricted Work Day Case	Any occupational injury or illness that prevents a worker from performing any of his/her craft jurisdiction duties
3 – Lost Time injury Cases	Any occupational injury that prevents the worker from performing any work for at least one day
4 – Total Recordable Frequency	Total number of Medical Treatment, Restricted Work and Lost Time Injury cases multiplied by 200,000 then divided by total manhours
5- Lost Time Injury Frequency	Total number of Lost Time Injury cases multiplied by 200,000 then divide by total manhours

1B. Workers' Compensation Experience

Use the previous three years injury and illness records to complete the following (if applicable):

Industry Code:	Industry Classification:

Year			
Industry Rate			
Contractor Rate			
% Discount or Surcharge			

Is your Workers' Compensation account in good standing? ☐ Yes ☐ No
(Please provide letter of confirmation)

2. Citations

2A. Has your company been cited, charged or prosecuted under Health, Safety and/or Environmental Legislation in the last 5 years?
☐ Yes ☐ No
If yes, provide details:

2B. Has your company been cited, charged or prosecuted under the above Legislation in another Country, Region or State?
☐ Yes ☐ No
If yes, provide details:

3. Certificate of Recognition

Does your company have a Certificate of Recognition?
☐ Yes ☐ No If Yes, what is the Certificate No. _____ Issue Date _____

4. Safety Program

Do you have a written safety program manual? ☐ Yes ☐ No
If Yes, provide a copy for review
Do you have a pocket safety booklet for field distribution? ☐ Yes ☐ No
If Yes, provide a copy for review
Does your safety program contain the following elements:

	YES	NO		YES	NO
CORPORATE SAFETY POLICY	☐	☐	EQUIPMENT MAINTENANCE	☐	☐
INCIDENT NOTIFICATION POLICY	☐	☐	EMERGENCY RESPONSE	☐	☐
RECORDKEEPING & STATISTICS	☐	☐	HAZARD ASSESSMENT	☐	☐
REFERENCE TO LEGISLATION	☐	☐	SAFE WORK PRACTICES	☐	☐
GENERAL RULES & REGULATIONS	☐	☐	SAFE WORK PROCEDURES	☐	☐
PROGRESSIVE DISCIPLINE POLICY	☐	☐	WORKPLACE INSPECTIONS	☐	☐
RESPONSIBILITIES	☐	☐	INVESTIGATION PROCESS	☐	☐
PPE STANDARDS	☐	☐	TRAINING POLICY & PROGRAM	☐	☐
ENVIRONMENTAL STANDARDS	☐	☐	COMMUNICATION PROCESSES	☐	☐
MODIFIED WORK PROGRAM	☐	☐			

5. Training Program

5A. Do you have an orientation program for new hire employees? ☐ Yes ☐ No
If Yes, include a course outline. Does it include any of the following:

	YES	NO		YES	NO
GENERAL RULES & REGULATIONS	☐	☐	CONFINED SPACE ENTRY	☐	☐
EMERGENCY REPORTING	☐	☐	TRENCHING & EXCAVATION	☐	☐
INJURY REPORTING	☐	☐	SIGNS & BARRICADES	☐	☐
LEGISLATION	☐	☐	DANGEROUS HOLES & OPENINGS	☐	☐
RIGHT TO REFUSE WORK	☐	☐	RIGGING & CRANES	☐	☐
PERSONAL PROTECTIVE EQUIPMENT	☐	☐	MOBILE VEHICLES	☐	☐
EMERGENCY PROCEDURES	☐	☐	PREVENTATIVE MAINTENANCE	☐	☐
PROJECT SAFETY COMMITTEE	☐	☐	HAND & POWER TOOLS	☐	☐
HOUSEKEEPING	☐	☐	FIRE PREVENTION & PROTECTION	☐	☐
LADDERS & SCAFFOLDS	☐	☐	ELECTRICAL SAFETY	☐	☐
FALL ARREST STANDARDS	☐	☐	COMPRESSED GAS CYLINDERS	☐	☐
AERIAL WORK PLATFORMS	☐	☐	WEATHER EXTREMES	☐	☐

5B. Do you have a program for training newly hired or promoted supervisors? ☐ Yes ☐ No

(If Yes, submit an outline for evaluation. Does it include instruction on the following:

	Yes	No		Yes	No
EMPLOYER RESPONSIBILITIES	☐	☐	SAFETY COMMUNICATION	☐	☐
EMPLOYEE RESPONSIBILITIES	☐	☐	FIRST AID/MEDICAL PROCEDURES	☐	☐
DUE DILIGENCE	☐	☐	NEW WORKER TRAINING	☐	☐
SAFETY LEADERSHIP	☐	☐	ENVIRONMENTAL REQUIREMENTS	☐	☐
WORK REFUSALS	☐	☐	HAZARD ASSESSMENT	☐	☐
INSPECTION PROCESSES	☐	☐	PRE-JOB SAFETY INSTRUCTION	☐	☐
EMERGENCY PROCEDURES	☐	☐	DRUG & ALCOHOL POLICY	☐	☐
INCIDENT INVESTIGATION	☐	☐	PROGRESSIVE DISCIPLINARY POLICY	☐	☐
SAFE WORK PROCEDURES	☐	☐	SAFE WORK PRACTICES	☐	☐
SAFETY MEETINGS	☐	☐	NOTIFICATION REQUIREMENTS	☐	☐

6. SAFETY ACTIVITIES

Do you conduct safety inspections? Yes ☐ No ☐ Weekly ☐ Monthly ☐ Quarterly ☐

Describe your safety inspection process (include participation, documentation requirements, follow-up, report distribution).

Who follows up on inspection action items?

Do you hold site safety meetings for field employees? If Yes, how often?

Yes ☐ No ☐ Daily ☐ Weekly ☐ Biweekly ☐

Do you hold site meetings where safety is addressed with management and field supervisors?

Yes ☐ No ☐ Weekly ☐ Biweekly ☐ Monthly ☐

Is pre-job safety instruction provided before to each new task? ☐ Yes ☐ No

Is the process documented? ☐ Yes ☐ No

Who leads the discussion?

Do you have a hazard assessment process? ☐ Yes ☐ No

- Are hazard assessments documented? If yes, how are hazard assessments communicated and implemented on each project? Who is responsible for leading the hazard assessment process?

Does your company have policies and procedures for environmental protection, spill clean-up, reporting, waste disposal, and recycling as part of the Health & Safety Program?

☐ Yes ☐ No

How does your company measure its H&S success?

- Attach separate sheet to explain

7. Safety Stewardship

7A Are incident reports and report summaries sent to the following and how often?

	Yes	No	Monthly	Quarterly	Annually
Project/Site Manager	☐	☐	☐	☐	☐
Vice President/Managing Director	☐	☐	☐	☐	☐
Safety Director/Manager	☐	☐	☐	☐	☐
President/Chief Executive Officer	☐	☐	☐	☐	☐

7B How are incident records and summaries kept? How often are they reported internally?

	Yes	No	Monthly	Quarterly	Annually
Incidents totaled for the entire company	☐	☐	☐	☐	☐
Incidents totaled by project	☐	☐	☐	☐	☐
• Subtotaled by superintendent	☐	☐	☐	☐	☐
• Subtotaled by foreman	☐	☐	☐	☐	☐

7C How are the costs of individual incidents kept? How often are they reported internally?

	Yes	No	Monthly	Quarterly	Annually
Costs totaled for the entire company	☐	☐	☐	☐	☐
Costs totaled by project	☐	☐	☐	☐	☐
• Subtotaled by superintendent	☐	☐	☐	☐	☐
• Subtotaled by foreman/general foreman	☐	☐	☐	☐	☐

7D Does your company track non-injury incidents?

	Yes	No	Monthly	Quarterly	Annually
Near Miss	☐	☐	☐	☐	☐
Property Damage	☐	☐	☐	☐	☐
Fire	☐	☐	☐	☐	☐
Security	☐	☐	☐	☐	☐
Environmental	☐	☐	☐	☐	☐

8 Personnel

List key health and safety officers planned for this project. Attach resume.

Name	Position/Title	Designation

Supply name, address and phone number of your company's corporate health and safety representative. Does this individual have responsibilities other than health, safety and environment?

Name	Address	Telephone Number

Other responsibilities:

9 References

List the last three company's your form has worked for that could verify the quality and management commitment to your occupational Health & Safety program

Name and Company	Address	Phone Number

T2.2-25 : Previous Experience

Note to tenderers:

Tenderers are required to demonstrate their experience and to this end shall supply a sufficiently detailed reference list with contact details of existing customers (Contact Person and contact number) and also indicate their previous experience and value of contracts completed.

Index of documentation attached to this schedule:

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-27: Broad-Based Black Economic Empowerment (B-BBEE)

B-BBEE and preferencing scheme:

Transnet fully endorses and supports the Government's Broad-Based Black Economic Empowerment Programme and it is strongly of the opinion that all South African business enterprises have an equal obligation to redress the imbalances of the past.

Transnet would therefore prefer to do business with local business enterprises who share these same values and who are prepared to contribute to meaningful B-BBEE initiatives (including, but not limited to subcontracting and Joint Ventures) as part of their tender responses. Transnet will accordingly allow a "preference" in accordance with the 90/10 preference system, as per the Preferential Procurement Policy Framework Act 5 of 2000 (as amended), to companies who provide a valid B-BBEE verification Certificate. All procurement and disposal transactions will be evaluated accordingly.

Consequently, when Transnet invites prospective suppliers to submit tenders for its various capital expenditure programmes, it urges tenderers (Large Enterprises and QSE's - see below) to have themselves accredited by any one of the various Accreditation Agencies approved by SANAS (the South African National Accreditation Systems, under the auspices of the Department of Trade and Industry) and IRBA (Independent Regulatory Board for Auditors).

In terms of Government Gazette No 34612, Notice No. 754 dated 23 September 2011, as from 1 October 2011 only B-BBEE Accreditation Certificates issued by SANAS approved Verification Agencies or Registered Auditors approved by IRBA will be valid.

All certificates are to display the BBBEE Verification Agency Body Name and BVA Body number or a Registered Auditor's Body Name and IRBA number.

Enterprises will be rated by such agencies based on the following:

Scorecard Types	Exempted Micro Enterprise	Qualifying Small Enterprise	Generic Construction
Discipline	Parameters are based on annual turnover of the Measured Entity		
Contractor	Annual turnover < R 5 million	Annual turnover > R 5 million and equal to or , < R 35 million	Annual turnover > R 35 million
Built Environment Professionals (BEP)	Annual turnover < R 1,5 million	Annual turnover > R 1,5 million and equal to or , < R 11,5 million	Annual turnover > R 11,5 million

a) Large Enterprises

- Rating level based on all seven elements of the B-BBEE scorecard

b) Qualifying Small Enterprises – QSE

- Rating level based on any four of the elements of the B-BBEE scorecard

c) Exempted Micro Enterprises –

- EMEs are exempted from B-BBEE verification as indicated in the DTI Codes, Statement 000 (Page 9)
- Automatic rating of Level 4 B-BBEE irrespective of race of ownership, i.e. 100% B-BBEE recognition
- Black ownership >50% or Black Women ownership >30% automatically qualify as Level 3 B-BBEE, i.e. 110% B-BBEE recognition
- Tenderers who qualify as EMEs in terms of the B-BBEE Act must submit a certificate (Which may be in the form of a letter) issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. The certificate must confirm the company turnover Black Ownership and Black Woman Ownership and B-BBEE status level.

In addition to the above, a trust, consortium or joint venture will qualify for its B-BBEE status level **only** if such consortium or joint venture submits a **consolidated** B-BBEE status certificate which covers the consortium or joint venture as if it were a single enterprise. Tenderers anticipating tendering in consortium or joint venture must allow sufficient time for obtaining such level verification.

A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate Tender.

Respondents must furnish B-BBEE certificates for all proposed subcontractors / sub-consulting , A bidder will not be awarded the points claimed for B-BBEE status level of contribution if it is indicated in the bid documents that such a bidder intends subcontracting / sub-consulting more that 25% of the contract value to any other enterprise that does not qualify for at least the same number of points that the bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract. A contractor is not allowed to sub-contract more than 25% of the contract value to another enterprise that does not have equal or higher B-BBEE status level, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

Respondents will be required to furnish proof to Transnet (i.e. a detailed scorecard as stipulated above in respect of Large Enterprises and QSEs, or proof of turnover in respect of EMEs). Failure to do so will result in a score of zero being allocated for B-BBEE.

When confirming the validity of a certificate in respect of an EME, the following should be detailed on the face of the certificate:

1. The Accounting Officer's or Registered Auditor's letter head with full contact details;
2. The Accounting Officer's or Registered Auditor's practice numbers;
3. The name and the physical location of the measured entity;
4. The registration number and, where applicable, the VAT number of the measured entity;
5. The date of issue and date of expiry;
6. The B-BBEE Status Level of Contribution obtained by the measured entity; and
7. The total black shareholding and total black female shareholding.

Turnover:

Kindly indicate your company's annual turnover for the past year

ZAR.....

- For Contractors:
  - If annual turnover >R5m, please attach an accreditation certificate issued by an Accreditation Agency or Registered Auditor, together with all the relevant score sheets pertaining thereto;
  - If annual turnover <R5m, please attach an accreditation certificate issued by an Accreditation Agency or Registered Auditor; or an Auditor's certificate or similar certificate issued by an Accounting Officer or Verification Agency which meets the definition for EME certificates mentioned above.
- For BEPs:
  - If annual turnover >R1.5m, please attach an accreditation certificate issued by an Accreditation Agency, together with all the relevant score sheets pertaining thereto;
  - If annual turnover < R 1,5 million, please attach an accreditation certificate issued by an Accreditation Agency or Registered Auditor; or an Auditor's certificate or similar certificate issued by an Accounting Officer or Verification Agency which meets the definition for EME certificates mentioned above.

In addition to the accreditation certificate, Transnet also requires that tenderers register their B-BBEE compliance and supporting documentation on the Department of Trade and Industry's ("DTI") National B-BBEE IT Portal and Opportunities Network and **provide Transnet with proof of registration in the form of an official B-BBEE Profile issued by the DTI**.

Transnet will use the DTI B-BBEE IT Portal as a single data source for its B-BBEE supplier selection criteria and procurement improvement programme by tracking compliance, understanding spend and by sourcing future procurement opportunities.

1. Instructions for registration and obtaining a DTI B-BBEE Profile:

1. Go to http://bee.thedti.gov.za;
2. Click on B-BBEE Registry;
3. Click on *Register or Login;*
4. Click on *Click Here to Register;*
5. Complete the registration page;
6. Once registered, click on *List on Registry;*
7. Follow all 'on-screen' and e-mailed instructions to submit your documentation and obtain your Profile.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-31 : Supplier Code of Conduct

Transnet SOC Limited aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with Transnet must understand and support. These are:

- The Transnet Procurement Policy – A guide for Tenderers.
- Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective;
- The Public Finance Management Act (PFMA);
- The Broad Based Black Economic Empowerment Act (BBBEE)
- The Prevention and Combating of Corrupt Activities Act (PRECCA); and
- The Construction Industry Development Board Act (CIDB Act).

This code of conduct has been included in this contract to formally appraise Transnet Suppliers of Transnet's expectations regarding behaviour and conduct of its Suppliers.

Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices

Transnet is in the process of transforming itself into a self-sustaining State Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

1. ***Transnet SOC Limited will not participate in corrupt practices. Therefore, it expects its suppliers to act in a similar manner.***
    - Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with, and payments to, our suppliers.
    - Employees must not accept or request money or anything of value, directly or indirectly, from suppliers.
    - Employees may not receive anything that is calculated to:
        - Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;
        - Win or retain business or to influence any act or decision of any person involved in sourcing decisions; or
        - Gain an improper advantage.

- There may be times when a supplier is confronted with fraudulent or corrupt behaviour of Transnet employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts. (0800 003 056).

2. ***Transnet SOC Limited is firmly committed to the ideas of free and competitive enterprise.***

- Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust practices.
- Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing BBBEE spend (fronting).

3. ***Transnet's relationship with suppliers requires us to clearly define requirements, to exchange information and share mutual benefits.***

- Generally, suppliers have their own business standards and regulations. Although Transnet cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
  - Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc);
  - Collusion;
  - Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, BBBEE status, etc.);
  - Corrupt activities listed above; and
  - Harassment, intimidation or other aggressive actions towards Transnet employees.
- Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the supplier is expected to participate in an honest and straight forward manner.
- Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.

Conflicts of Interest

A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of Transnet SOC Limited.

- Doing business with family members.
- Having a financial interest in another company in our industry

Where possible, contracts will be negotiated to include the above in the terms of such contracts. To the extent such terms are not included in contractual obligations and any of the above code is breached, then Transnet reserves its right to review doing business with these suppliers.

I, _____ of _____

(insert name of Director or as per Authority Resolution from Board of Directors)

(insert name of Company)

hereby acknowledge having read, understood and agree to the terms and conditions set out in the "Transnet Supplier Code of Conduct."

Signed this on day _____ at _____

_____

Signature

T2.2-33 : Mutual Non-Disclosure Agreement

Note to tenderers: This Non-Disclosure Agreement is to be completed and signed by an authorised signatory:

THIS AGREEMENT is made effective as of ..... day of ..... 20..... by and between:

Transnet SOC Ltd (Registration No. 1990/000900/30), a company incorporated and existing under the laws of South Africa, having its principal place of business at Carlton Centre, 150 Commissioner Street, Johannesburg, 2001, South Africa,

and

..... (Registration No. .....), a private company incorporated and existing under the laws of South Africa having its principal place of business at .....

.....

1. Purpose

The parties to this Agreement have a business relationship under which each party may disclose its Confidential Information to the other for the purpose of planning, developing and/or constructing a **UPGRADE OF FIRE PROTECTION SYSTEM AT TANKE BERTH, PORT OF EAST LONDON** ('the Purpose"). Each party ("the receiving party") shall treat as confidential all information and know-how which it may receive from the other party ("the disclosing party") in terms of this Agreement (hereinafter referred to as "confidential information"), and shall not divulge to any other party in any circumstances any such confidential information, and, in particular, any such confidential information as is covered by the National Key Points Act (Act No. 102 of 1980), whether during the currency of this Agreement or at any time thereafter, without the prior written consent of the disclosing party.

2. Definition

"**Confidential Information**" means any information, technical data, or know-how, including, but not limited to, that which relates to research, product plans, products, services, customers, markets, software, developments, inventions, processes, designs, drawings, engineering, hardware configuration information, marketing or finances.

3. Exclusions

Confidential Information does not include information, technical data or know-how which:

3.1. is in the possession of the receiving party at the time of disclosure as shown by the receiving party's files and records immediately prior to the time of disclosure;

3.2. prior or after the time of disclosure becomes part of the public knowledge or literature, not as a result of any inaction or action of the receiving party;

3.3. is developed by the receiving party through its independent resources without reference to the disclosing party's Confidential Information;

3.4. is disclosed to the receiving party by a third party without restriction and, to the knowledge of the receiving party, without violation of any obligation of confidentiality; or

3.5. is approved for release by the disclosing party in writing.

4. Non-Disclosure of Confidential Information

4.1. The parties to this Agreement agree not to use the Confidential Information disclosed to it by the other party for its own use or for any purpose except to carry out the Purpose as contained in this Agreement. Neither party will disclose any Confidential Information of the other party to third parties except those directors, officers, employees, consultants and agents who are required to have the information in order to carry out the discussions of the contemplated Purpose. Each party will notify those directors, officers, employees, consultants and agents to whom Confidential Information of the other party is disclosed or who have access to Confidential Information of the other party that they are bound by the obligations of this Non-Disclosure Agreement.

4.2. Each party agrees that it will take all reasonable measures to protect the secrecy of and avoid disclosure or use of Confidential Information of the other party in order to prevent it from falling into the public domain or the possession of persons other than those persons authorised hereunder to have any such information, which measures shall include the highest degree of care that either party utilises to protect its own Confidential Information of a similar nature. Each party agrees to notify the other party in writing of any misuse or misappropriation of such Confidential Information of the other party which may come to its attention.

5. Promotion of Access to Information Act, No.2 of 2000

5.1. All information relating to the disclosing party and which the disclosing party has indicated to the receiving party in writing to be confidential information, shall be deemed to be confidential information.

5.2. No provision of this Agreement shall be construed in such a way that the disclosing party is deemed to have granted its consent to the receiving party to disclose the whole or any part of the confidential information in the event that the receiving party receives a request for the whole or any part of the confidential information in terms of the provisions of the Promotion of Access to Information Act, No.2 of 2000, as may be amended from time to time ("the Act").

5.3. Subject to the provisions of sub-clause 5.3 below, the disclosure of confidential information by the receiving party otherwise than in accordance with the provisions of this Agreement will

entitle the disclosing party to institute action for breach of confidence against the receiving party, as envisaged by Section 65 of Act No.2 of 2000.

5.4. The receiving party acknowledges that the provisions of sub-clause 5.2 above shall not be construed in such a manner as to exclude the applicability of any other grounds of refusal contained in Act No.2 of 2000 which may be applicable in the event that the receiving party receives a request for the whole or any part of the confidential information in terms of Act No.2 of 2000.

6. Non-Solicitation

During the two-year period following the execution of this Agreement, neither party will solicit for employment, on its own behalf or that of any other person, any officer, director or employee of the other party at the level of director, vice-president or higher with whom the soliciting party became acquainted during the course of the discussions contemplated by this Agreement; provided, that the foregoing shall not be deemed to prohibit either party or a subsidiary of such party from making a general, public solicitation of employment in the ordinary course of such party or subsidiary's business, provided that such solicitation is not directed specifically to employees of the other party.

7. Mandatory Disclosure

In the event that either party or their respective directors, officers, employees, consultants or agents are requested or required by legal process to disclose any of the Confidential Information of the other party, the party required to make such disclosure shall give prompt notice so that the other party may seek a protective order or other appropriate relief. In the event that such protective order is not obtained, the party required to make such disclosure shall disclose only that portion of the Confidential Information, which its counsel advises that it is legally required to disclose.

8. Variation, Addition or Cancellation

No variation of, addition to, cancellation or novation of this Agreement in its entirety or of any term or condition thereof shall be of any force or effect unless such amendment or cancellation is reduced to writing and signed by both parties.

9. No License Granted

Nothing in this Agreement is intended to grant any rights to either party under any patent, copyright, trade secret or other intellectual property right nor shall this Agreement grant either party any rights in or to the other party's Confidential Information, except the limited right to review such Confidential Information solely for the purposes of the contemplated business relationship between the parties.

10. No Representations

No party makes any representation or warranty as to the accurateness or completeness of any Confidential Information provided hereunder. Neither party shall have any liability to the other arising from, or related to, the other party's use of Confidential Information provided hereunder.

11. Term

The foregoing commitments of either party in this Agreement shall survive any termination of the business relationship under the contemplated Purpose between the parties, and shall continue relative to any Confidential Information disclosed hereunder for a period of 10 (ten) years following the disclosure of such Confidential Information.

12. Miscellaneous

This Agreement shall be binding upon and for the benefit of the undersigned parties, their successors and assigns, provided that Confidential Information of either party may not be assigned without the prior written consent of the disclosing party. Failure to enforce any provision of this Agreement shall not constitute a waiver of any term hereof.

13. Governing Law and Jurisdiction

This Agreement shall be governed by and construed and enforced in accordance with the laws of the Republic of South Africa, and shall be binding upon the parties hereto in South Africa and worldwide.

14. Disputes

Any dispute or difference arising out of or relating to this Confidentiality Agreement shall be referred to arbitration and settled by arbitration according to the rules then in effect of the Arbitration Foundation of Southern Africa. Such arbitration shall be held in Johannesburg, and conducted in the English language before 1 (one) arbitrator appointed in accordance with the said rules. The arbitrator shall apply the law chosen by the parties elsewhere in this Agreement to the merits of the dispute. This Agreement to arbitrate shall be enforceable in, and judgement upon any award may be entered in any court of any country having appropriate jurisdiction.

15. Remedies

Each party agrees that its obligations hereunder are necessary and reasonable in order to protect the other party and the other party's business, and expressly agrees that monetary damages may be inadequate to compensate the other party for any breach by either party of any covenants and agreements set forth herein. Accordingly, each party agrees and acknowledges that any such violation or threatened violation may cause irreparable injury to the other party and that, in addition to any other remedies that may be available, in law, in equity or otherwise, the other party shall be entitled to obtain injunctive relief against the threatened breach of this Agreement or the continuation of any such breach, without the necessity of proving actual damages.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Supplier Declaration Form

The Financial Director or Company Secretary

Transnet Vendor Management has received a request to load your company as a Transnet vendor. We would like to take this opportunity to welcome you as a potential vendor and request that you assist with the following to enable us to process this request:

1. Complete the "Supplier Declaration Form" **(SDF)** on page 2 of this letter
2. Original of cancelled cheque **OR** letter from the bank verifying banking details (**with bank stamp)**
3. Certified copy of Identity document of Shareholders/Directors/Members (where applicable)
4. Certified copy of certificate of incorporation, CM29/CM9 (name change)
5. Certified copy of share Certificates of Shareholders, CK1/CK2 (if CC)
6. A letter with the company's letterhead confirming physical and postal address
7. Original or certified copy of SARS Tax Clearance certificate and Vat registration certificate
8. A signed letter from the Auditor / Accountant confirming most recent annual turnover and percentage black ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from a SANAS Accredited Verification Agency.

NB:
- ***Failure to submit the above documentation will delay the vendor creation process.***
- *Where applicable, the respective Transnet business unit processing your application may request further information from you. E.g. proof of an existence of a Service/Business contract between your business and the respective Transnet business unit etc.*

IMPORTANT NOTES:

a) **If your annual turnover is less than R5 million,** then in terms of the DTI codes, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission, a signed letter from your Auditor / Accountant confirming your company's most recent annual turnover is less than R5 million and percentage of black ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from a SANAS Accredited Verification Agency.

b) **If your annual turnover exceeds R5 million**, and you claim a specific BEE level, please include your BEE certificate in your submission as confirmation of your status.

c) **To avoid PAYE tax being automatically deducted from any invoices received from you,** you must also contact the Transnet person who lodged this request on your behalf, so as to be correctly classified in terms of Tax legislation.

Unfortunately, **No payments can be made to a vendor** until the vendor has been registered, and no vendor can be registered until the vendor application form, together with its supporting documentation, has been received and processed.

Regards,

Transnet Procurement Management

SUPPLIER DECLARATION FORM

Company Trading Name						
Company Registered Name						
Company Registration Number Or ID Number If A Sole Proprietor						
Form of entity	CC	Trust	Pty Ltd	Limited	Partnership	Sole Proprietor
VAT number (if registered)						
Company Telephone Number						
Company Fax Number						
Company E-Mail Address						
Company Website Address						
Postal Address						
Physical Address						
Contact Person						
Designation						
Telephone						
Email						

Annual Turnover Range (Last Financial Year)	< R5 Million		R5-35 million		> R35 million	
Does Your Company Provide	Products		Services		Both	
Area Of Delivery	National		Provincial		Local	
Is Your Company A Public Or Private Entity			Public		Private	
Does Your Company Have A Tax Directive Or IRP30 Certificate			Yes		No	
Main Product Or Service Supplied (E.G.: Stationery/Consulting)						

BEE Ownership Details					
% Black Ownership		% Black women ownership		% Disabled person/s ownership	
Does your company have a BEE certificate	Yes		No		
What is your broad based BEE status (Level 1 to 8 / Unknown)					
How many personnel does the firm employ	Permanent		Part time		

Name of person procuring your services/products	
Contact number	
Transnet operating division	

Duly Authorised To Sign For And On Behalf Of Firm / Organisation			
Name		Designation	
Signature		Date	

Stamp And Signature Of Commissioner Of Oath			
Name		Date	
Signature		Telephone No.	

NB: Please return the completed form, with all the supporting documentation to the person procuring your services/material/goods

T2.2-36 : RFP DECLARATION FORM

NAME OF COMPANY: _____

We _____ do hereby certify that:

1. Transnet has supplied and we have received appropriate responses to any/all questions (as applicable) which were submitted by ourselves for bid clarification purposes;
2. we have received all information we deemed necessary for the completion of this Request for Proposal (RFP);
3. at no stage have we received additional information relating to the subject matter of this RFP from Transnet sources, other than information formally received from the designated Transnet contact(s) as nominated in the RFP documents;
4. we are satisfied, insofar as our company is concerned, that the processes and procedures adopted by Transnet in issuing this RFP and the requirements requested from bidders in responding to this RFP have been conducted in a fair and transparent manner; and
5. furthermore, we acknowledge that a direct relationship exists between a family member and/or an owner / member / director / partner / shareholder (unlisted companies) of our company and an employee or board member of the Transnet Group as indicated below: *[Respondent to indicate if this section is not applicable]*

FULL NAME OF OWNER/MEMBER/DIRECTOR/
PARTNER/SHAREHOLDER: ADDRESS:

_____

_____

_____

Indicate nature of relationship with Transnet:

_____

_____

_____

_____

[Failure to furnish complete and accurate information in this regard may lead to the disqualification of your response and may preclude a Respondent from doing future business with Transnet]

We declare, to the extent that we are aware or become aware of any relationship between ourselves and Transnet (other than any existing and appropriate business relationship with Transnet) which could unfairly advantage our company in the forthcoming adjudication process, we shall notify Transnet immediately in writing of such circumstances.

6. We accept that any dispute pertaining to this bid will be resolved through the Ombudsman process and will be subject to the Terms of Reference of the Ombudsman. The Ombudsman process must first be exhausted before judicial review of a decision is sought. (Refer "Important Notice to Respondents" overleaf).

7. We further accept that Transnet reserves the right to reverse a tender award or decision based on the recommendations of the Ombudsman without having to follow a formal court process to have such award or decision set aside.

SIGNED at _____ on this _____ day of _____ 20____

For and on behalf of ..... duly authorised thereto	AS WITNESS:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	
Place:	

T2.2-37: Method Statement

Note to tenderers:

Method statement

In addition to general methodology for the project please provide specific information for the following points:

Two prints of all shop drawings shall be submitted to the Engineer for approval before fabrication of that part of the work is commenced.

Non-destructive testing of the pipelines shall be performed prior to the painting or coating of the pipelines. A primer coat may be applied to protect the pipeline if the non-destructive testing cannot be performed in good time.

Certification of Crane to be used must be provided

Erected scaffold must be inspected immediately for inclement weather.

Erected scaffolding to be signed off by competent inspector of scaffold.

Transport tools, equipment and material to and from Site.

Inspect equipment, tools, employee documentation and PPE before start of work for compliance to own and Client specification.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

T2.2-38 : DECLARATION OF UNDERSTANDING

PROJECT NAME:	**UPGRADE OF FIRE PROTECTION SYSTEM AT TANKER BERTH, PORT OF EAST LONDON**	**DOCUMENT NO:**	**001**
PROJECT NO:	**1115374**	**DATE:**	
CONTRACTOR:		**CONTRACT NO:**	**CPT 1115374.001**

I,

_____ _____

(Name) *(Designation)*

_____

(Representing)

Declare that I have read and understood the contents of the Standard Environmental Specification (ENV-STD-002), the Construction Environmental Management Plan (ENV-STD-001) and the Occupational Health & Safety Act and Regulations.

I also declare that I understand my responsibilities in terms of enforcing and implementing the Environmental Specifications for the aforementioned Contract.

Signed	Signature	Date
Place		
Witness 1:	Signature	Date
Witness 2:		

T2.2-43 : REQUEST FOR PROPOSAL – BREACH OF LAW

NAME OF COMPANY: _____

I / We _____ do hereby certify that ***I/we have/have not been*** found guilty during the preceding 5 (five) years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Respondent is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

_____

_____

_____

DATE OF BREACH: _____

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any Respondent from the bidding process, should that person or company have been found guilty of a serious breach of law, tribunal or regulatory obligation.

SIGNED at _____ on this _____ day of _____ 20____

_____ _____

SIGNATURE OF WITNESS SIGNATURE OF RESPONDENT

T2.2-50: B-BBEE PREFERENCE POINTS CLAIM FORM (SDB 6.1)

This preference form contains general information and serves as a claim for preference points for Broad-Based Black Economic Empowerment [**B-BBEE**] Status Level of Contribution.

1. INTRODUCTION

1.1 A total of 10 preference points shall be awarded for B-BBEE Status Level of Contribution.

1.2 Failure on the part of a Bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System [**SANAS**] or a Registered Auditor approved by the Independent Regulatory Board of Auditors [**IRBA**] or an Accounting Officer as contemplated in the Close Corporation Act [**CCA**] together with the bid will be interpreted to mean that preference points for B-BBEE Status Level of Contribution are not claimed.

1.3 Transnet reserves the right to require of a Bidder, either before a Bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by Transnet.

2. GENERAL DEFINITIONS

2.1 **"all applicable taxes"** include value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

2.2 **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

2.3 **"B-BBEE status of contributor"** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

2.4 **"Bid"** means a written offer in a prescribed or stipulated form in response to an invitation by Transnet for the provision of goods, works or services;

2.5 **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 [Act No. 53 of 2003];

2.6 **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts that can utilised have been taken into consideration;

2.7 **"consortium or joint venture"** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a contract;

2.8 **"contract"** means the agreement that results from the acceptance of a bid by Transnet;

2.9 **"EME"** means any enterprise with an annual total revenue of R5 [five] million or less;

2.10 **"firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs and excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

2.11 **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;

2.12 **"non-firm prices"** means all prices other than "firm" prices;

2.13 **"person"** includes reference to a juristic person;

2.14 "**rand value**" means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.15 **"subcontract"** means the primary contractor's assigning or leasing or making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract;

2.16 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Empowerment Act and promulgated in the Government Gazette on 9 February 2007;

2.17 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

2.18 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The Bidder obtaining the highest number of total points for the evaluation criteria as enumerated in Section 2 of the RFP will be awarded the contract, unless objective criteria justifies the award to another bidder.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

3.3 Points scored will be rounded off to 2 [two] decimal places.

3.4 In the event of equal points scored, the Bid will be awarded to the Bidder scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more Bids have scored equal points including equal preference points for B-BBEE, the successful Bid will be the one scoring the highest score for functionality.

3.6 Should two or more Bids be equal in all respect, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

4.1 In terms of Regulation 5(2) and 6(2) of the Preferential Procurement Regulations, 2011, preference points shall be awarded to a Bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points [Maximum 10]
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor	0

Note: Refer to Section 1 of the RFP document for further information in terms of B-BBEE ratings.

4.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EME's with B-BBEE Status Level Certificates.

4.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

4.4 A trust, consortium or joint venture will qualify for points for its B-BBEE status level as a legal entity, provided that the entity submits its B-BBEE status level certificate.

4.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

4.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialised scorecard contained in the B-BBEE Codes of Good Practice.

4.7 A person will not be awarded points for B-BBEE status level if it is indicated in the Bid documents that such a Bidder intends subcontracting more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not qualify for at least the same number of points that such a Bidder qualifies for, unless the intended subcontractor is an EME that has the capability and ability to execute the subcontract.

4.8 A person awarded a contract may not subcontract more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

5. B-BBEE STATUS AND SUBCONTRACTING

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

B-BBEE Status Level of Contributor _____ = _____ [maximum of 10 points]

Note: Points claimed in respect of this paragraph 5.1 must be in accordance with the table reflected in paragraph 4.1 above and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the Close Corporation Act.

5.2 **Subcontracting:**

Will any portion of the contract be subcontracted? YES/NO [delete which is not applicable]

If YES, indicate:

(i) What percentage of the contract will be subcontracted? .....%
(ii) The name of the subcontractor .....
(iii) The B-BBEE status level of the subcontractor .....
(iv) Is the subcontractor an EME? YES/NO

5.3 Declaration with regard to Company/Firm

(i) Name of Company/Firm.....

(ii) VAT registration number.....

(iii) Company registration number.....

(iv) Type of Company / Firm
□Partnership/Joint Venture/Consortium
□One person business/sole propriety
□Close Corporations
□Company (Pty) Ltd
[TICK APPLICABLE BOX]

(v) Describe Principal Business Activities

.....

.....

.....

.....

(vi) Company Classification

□Manufacturer

□Supplier

□Professional Service Provider

□Other Service Providers, e.g Transporter, etc

[TICK APPLICABLE BOX]

(vii) Total number of years the company/firm has been in business.....

BID DECLARATION

I/we, the undersigned, who warrants that he/she is duly authorised to do so on behalf of the company/firm, certify that points claimed, based on the B-BBEE status level of contribution indicated in paragraph 4 above, qualifies the company/firm for the preference(s) shown and I / we acknowledge that:

(i) The information furnished is true and correct.

(ii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 6 above, the contractor may be required to furnish documentary proof to the satisfaction of Transnet that the claims are correct.

(iii) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, Transnet may, in addition to any other remedy it may have:

(a) disqualify the person from the bidding process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

(d) restrict the Bidder or contractor, its shareholders and directors, and/or associated entities, or only the shareholders and directors who acted in a fraudulent manner, from obtaining business from Transnet for a period not exceeding 10 years, after the *audi alteram partem* [hear the other side] rule has been applied; and/or

(e) forward the matter for criminal prosecution.

WITNESSES:

1. .....

2. .....

SIGNATURE OF BIDDER

DATE:

.....

COMPANY NAME: .....

ADDRESS:.....

.....

.....

T2.2-51 : Certificate of Acquaintance with Tender Documents

NAME OF TENDERING ENTITY:

1. I/we do hereby certify that I/we acquainted myself/ourselves with all the documentation comprising this RFP and all conditions contained therein, as laid down by Transnet SOC Ltd for the carrying out of the proposed supply/service/works for which I/we submitted my/our Proposal.

2. I/we furthermore agree that Transnet SOC Ltd shall recognise no claim from me/us for relief based on an allegation that I/we overlooked any RFP/contract condition or failed to take it into account for the purpose of calculating my/our offered prices or otherwise.

3. I/we understand that the accompanying Bid will be disqualified if this Certificate is found not to be true and complete in every respect.

4. For the purposes of this Certificate and the accompanying Bid, I/we understand that the word "competitor" shall include any individual or organisation, other than the Bidder, whether or not affiliated with the Bidder, who:

   a) has been requested to submit a Bid in response to this Bid invitation;

   b) could potentially submit a Bid in response to this Bid invitation, based on their qualifications, abilities or experience; and

   c) provides the same Services as the Bidder and/or is in the same line of business as the Bidder

5. The Bidder has arrived at the accompanying Bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium will not be construed as collusive bidding.

6. In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

   a) prices;

   b) geographical area where Services will be rendered [market allocation]

   c) methods, factors or formulas used to calculate prices;

   d) the intention or decision to submit or not to submit, a Bid;

   e) the submission of a Bid which does not meet the specifications and conditions of the RFP; or

f) bidding with the intention not winning the Bid.

7. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the Services to which this RFP relates.

8. The terms of the accompanying Bid have not been, and will not be, disclosed by the Bidder, directly or indirectly, to any competitor, prior to the date and time of the official Bid opening or of the awarding of the contract.

9. I/We am/are aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, Bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and/or may be reported to the National Prosecuting Authority [NPA] for criminal investigation. In addition, bidders that submit suspicious bids may be restricted from conducting business with the public sector for a period not exceeding 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

SIGNED at _____ on this _____ day of _____ 20___

_____ _____

SIGNATURE OF WITNESS

C1.1 Form of Offer & Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

UPGRADE OF FIRE PROTECTION SYSTEM AT TANKER BERTH, PORT OF EAST LONDON

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer 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 contract* identified in the Contract Data.

The offered total of the Prices exclusive of VAT is	**R**
Value Added Tax @ 14% is	**R**
The offered total of the Prices inclusive of VAT is	**R**
(in words)	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

For the tenderer: _____

Name & signature of witness _____ Date _____

Tenderer's CIDB registration number: _____

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

for the Employer Transnet SOC Ltd
Bellville Square, off Robert Sobukewe Road
Behind Transnet Park, Bellville South

Name & signature of witness _____ Date _____

Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.

Schedule of Deviations

Note:

1. To be completed by the Employer prior to award of contract. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

	For the tenderer:	**For the Employer**
Signature		
Name		
Capacity		
On behalf of	*(Insert name and address of organisation)*	Transnet SOC Ltd Bellville Square, off Robert Sobukwe Road Behind Transnet Park, Bellville South
Name & signature of witness		
Date		

C1.2 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	**B: Priced contract with bill of quantities**
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	**X7: Delay damages** **X16: Retention**
	of the NEC3 Engineering and Construction Contract June 2005 (with amendments June 2006)[1]	
10.1	The *Employer* is:	**Transnet SOC Ltd** **(Registration No. 1990/000900/30)**
	Address	Registered address: **Carlton Centre** **150 Commissioner Street** **Johannesburg** **2001**
	Having elected its Contractual Address for the purposes of this contract as:	**Transnet Freight Rail RME** **Bellville Square** **Off Robert Sobukwe Road, Behind Transnet Park** **Bellville South** **7533** **Postal Address:** **P O Box 338** **Kasselsvlei** **South Africa 7535**
	Tel No.	**(021) 940 1800**
	Fax No.	**(021) 940 1940**

[1] Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009

10.1	The *Project Manager* is: (Name)	**Arthur Mdingi**
	Address	**Transnet Freight Rail RME Building, No.2 A Signal Street, Quigney, East London**
	Tel	**(043) 700 2461**
	Fax	**086 646 4092**
	e-mail	**Arthur.mdingi@transnet.net**
10.1	The *Supervisor* is: (Name)	**Vuyo Mgushelo**
	Address	**Transnet Freight Rail RME Building, No.2 A Signal Street, Quigney, East London**
	Tel No.	**(043) 700 2461**
	Fax No.	**086 646 4092**
	e-mail	**Vuyo.mgushelo**
11.2(13)	The *works* are	**Upgrade of fire protection system**
11.2(14)	The following matters will be included in the Risk Register	**1. Working in an operational area 2. Fire hazard 3. Work to be done on the edge of the Quay side**
11.2(15)	The *boundaries of the site* are	**Tanker Bert, Port of East London**
11.2(16)	The Site Information is in	**Part C4**
11.2(19)	The Works Information is in	**Part C3**
12.2	The *law of the contract* is the law of	**the Republic of South Africa subject to the jurisdiction of the Courts of South Africa.**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**2 (two) weeks**
2	**The Contractor's main responsibilities**	**No additional data is required for this section of the *conditions of contract*.**
3	**Time**	
11.2(3)	The *completion date* for the whole of the *works* is	**6 (six) months from award**
31.2	The *starting date* is.	**Contract Date**
32.2	The *Contractor* submits revised programmes at intervals no longer than	**2 (two) weeks.**
35.1	The *Employer* is not willing to take over the *works* before the Completion Date.	

4	**Testing and Defects**	
42.2	The *defects date* is	**26 (twenty six) weeks after Completion of the whole of the *works*.**
43.2	The *defect correction period* is	**2 (two)) weeks**
5	**Payment**	
50.1	The *assessment interval* is monthly on the	**25th (twenty fifth) day of each successive month.**
51.1	The *currency of this contract* is the	**South African Rand.**
51.2	The period within which payments are made is	**Payment will be effected on or before the last day of the month following the month during which a valid Tax Invoice and Statement were received.**
51.4	The *interest rate* is	**the prime lending rate of the Standard Bank of South Africa.**
6	**Compensation events**	
60.1(13)	The *weather measurements* to be recorded for each calendar month are,	**the cumulative rainfall (mm)** **the number of days with rainfall more than 10 mm** **the number of days with minimum air temperature less than 0 degrees Celsius** **the number of days with snow lying at 08:00 hours South African Time** **and these measurements: supplied by the South African Weather Services**
	The place where weather is to be recorded (on the Site) is:	**The nearest weather recording to Port of Cape Town**
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	**at the nearest weather recording to the Site and which are available from the South African Weather Services**
	and which are available from:	**South African Weather Service 012 367 6023 or info3@weathersa.co.za.**
7	**Title**	**No additional data is required for this section of the *conditions of contract*.**

8 Risks and insurance

84.2	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the *works*, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract for any one event is	**Whatever the *Contractor* requires in addition to the amount of insurance taken out by the *Employer* for the same risk.**
84.2	The insurance against loss of or damage to the *works*, Plant and Materials as stated in the insurance policy for contract works and public liability selected from: Blanket Principal Controlled Insurance (BPCI), Principal Controlled Insurance (PCI), Principal Controlled Contractors Liability Insurance, Principal Controlled Insurance One-off; and Project Specific Insurance	**R** **Select one** | **BPCI** | √ **PCI** | **PCI Liab only** | **PCI One Off** | **PSI** |
84.1	The *Employer* provides these insurances from the Insurance Table	
	1 Insurance against:	**Loss of or damage to the *works*, Plant and Materials is as stated in the Blanket Principal Controlled Insurance policy for Contract Works/ Public Liability.**
	Cover / indemnity:	**to the extent as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
	The deductibles are:	**as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
	2 Insurance against:	**Loss of or damage to property (except the *works*, plant, materials & equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor)* arising out of or in connection with the performance of the Contract as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
	Cover / indemnity	**Is to the extent as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
	The deductibles are	**as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**

84.1	3	Insurance against:	**Loss of or damage to Equipment (Temporary Works only) as stated in the Blanket Principal Controlled insurance policy for contract Works and Public Liability**
		Cover / indemnity	**Is to the extent as stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
		The deductibles are:	**As stated in the Blanket Principal Controlled insurance policy for Contract Works / Public Liability**
	4	Insurance against:	**Contract Works SASRIA insurance subject to the terms, exceptions and conditions of the SASRIA coupon**
		Cover / indemnity	**Cover / indemnity is to the extent provided by the SASRIA coupon**
		The deductibles are	**the deductible are as stated in the Contract Works SASRIA policy.**

84.1	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract for any one event is	**The *Contractor* must comply at a minimum with the provisions of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 as amended.**
	The *Contractor* provides these additional Insurances	**1 Where the contract requires that the design of any part of the *works* shall be provided by the *Contractor* he shall satisfy the Employer that professional indemnity insurance cover in connection therewith has been affected** **2 Where the contract involves manufacture, and/or fabrication of Plant & Materials, components or other goods to be incorporated into the *works* at premises other than the site, the *Contractor* shall satisfy the *Employer* that such plant & materials, components or other goods for incorporation in the *works* are adequately insured during manufacture and/or fabrication and transportation to the site.** **3 Should the *Employer* have an insurable interest in such items during manufacture, and/or fabrication, such interest shall be noted by endorsement to the *Contractor's* policies of insurance as well as those of any subcontractor**

		4 Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R5,000,000. **5 The insurance coverage referred to in 1, 2, 3, 4 and 5 above shall be obtained from an insurer(s) in terms of an insurance policy approved by the *Employer*. The *Contractor* shall arrange with the insurer to submit to the *Project Manager* the original and the duplicate original of the policy or policies of insurance and the receipts for payment of current premiums, together with a certificate from the insurer or insurance broker concerned, confirming that the policy or policies provide the full coverage as required. The original policy will be returned to the *Contractor***
9	**Termination**	**There is no additional Contract Data required for this section of the *conditions of contract*.**
10	**Data for main Option clause**	
B	**Priced contract with bill of quantities**	
60.6	The *method of measurement* is	**As indicated in the measurement clauses of SANS 1200 and amended as stated in the preambles to the bill of quantities**
11	**Data for Option W1**	
W1.1	The *Adjudicator* is	**Both parties will agree as and when a dispute arises. If the parties cannot reach an agreement on the *Adjudicator*, the chairman of the Association of Arbitrators will appoint an *Adjudicator*.**
W1.2(3)	The *Adjudicator nominating body* is: If no *Adjudicator nominating body* is entered, it is:	**The Chairman of the Association of Arbitrators (Southern Africa)** **the Association of Arbitrators (Southern Africa)**
W1.4(2)	The *tribunal* is:	**Arbitration**
W1.4(5)	The *arbitration procedure* is The place where arbitration is to be held is The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is	**The Rules for the Conduct of Arbitrations of the Association of Arbitrators (Southern Africa)** **East London** **The Chairman of the Association of Arbitrators (Southern Africa)**

12	**Data for secondary Option clauses**	
X7	**Delay damages (but not if Option X5 is also used)**	
X7.1	Delay damages for Completion of the whole of the *works* are	**R 2 000.00 per day**
X16	**Retention**	
X16.1	The *retention free amount* is	**R 0.00.**
	The *retention percentage* is	**10% on all payments certified.**

C1.2 Contract Data

Part two - Data provided by the *Contractor*

The tendering contractor is advised to read both the NEC3 Engineering and Construction Contract - June 2005 (with amendments June 2006) and the relevant parts of its Guidance Notes (ECC3-GN)[2] in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 152 to 154 of the ECC3 Guidance Notes.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The *Contractor* is (Name): Address Tel No. Fax No.	
11.2(8)	The *direct fee percentage* is The *subcontracted fee percentage* is	_____% _____%
11.2(18)	The *working areas* are the Site and	**Tanker Berth, Port of East London**
24.1	The *Contractor's* key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	**CV's (and further key persons data including CVs) are appended to Tender Schedule entitled T2.2-7.**
11.2(3)	The *completion date* for the whole of the *works* is	**6 (six) months from award of contract**
11.2(14)	The following matters will be included in the Risk Register	**T2.2-3**

[2] Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009

31.1	The programme identified in the Contract Data is	**T2.2-2**
B	**Priced contract with bill of quantities**	
11.2(21)	The *bill of quantities* is in	**C2.2**
11.2(31)	The tendered total of the Prices is	_____ (in figures) _____ _____ _____ (in words), excluding VAT
	Data for Schedules of Cost Components	*Note "SCC" means Schedule of Cost Components starting on page 56 of ECC, and "SSCC" means Shorter Schedule of Cost Components starting on page 59 of ECC.*
B	**Priced contract with bill of quantities**	**Data for the Shorter Schedule of Cost Components**
41 in SSCC	The percentage for people overheads is:	_____%
21 in SSCC	The published list of Equipment is the last edition of the list published by	_____
	The percentage for adjustment for Equipment in the published list is	_____% (state plus or minus)
22 in SSCC	The rates of other Equipment are:	**Equipment** / **Size or capacity** / **Rate**

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option B	3
C2.2	The *bill of quantities*	18

C2.1 Pricing instructions: Option B

1. The *conditions of contract*

1.1. How the contract prices work and assesses it for progress payments

Clause 11 in NEC3 Engineering and Construction Contract, June 2005 (ECC) Option B states:

Identified and defined terms	11 11.2	(21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration. (22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events. (28) The Price for Work Done to Date is the total of • the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and • a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed. Completed work is work without Defects which would either delay or be covered by immediately following work. (31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

1.2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

Historically bill of quantities based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.

2. Measurement and payment

2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
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[1]	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

[1] Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work

2.2. General assumptions

2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.

2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.

2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.

2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the *bill* specifically for such matters, then the *Contractor* is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.

2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.

2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.

2.2.7. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

C2.2 the *bill of quantities*

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION A : PRELIMINARY AND GENERAL				
A1	**FIXED CHARGE ITEMS**				
A1.1	Contractual requirements	Sum	1		
A1.2	**Facilities for the Contractor**				
	a) Office and storage sheds	Sum	1		
	b) Ablution and latrine facilities	Sum	1		
	c) Tools and equipment	Sum	1		
	d) Water supply and power	Sum	1		
A1.3	**Facilities for the Engineer**				
	a) Office and Meeting Room	Sum	1		
	b) Kitchen	Sum	1		
	c) Toilet	Sum	1		
	d) Equipment	Sum	1		
A1.4	**Other fixed obligations**				
	a) PPE for staff	Sum	1		
	b) Piping Mark-out	Sum	1		
	c) Security	Sum	1		
	d) Medicals and Inductions	Sum	1		
	e)	Sum	1		
	f)	Sum	1		
	g)	Sum	1		
	h)	Sum	1		
	i)	Sum	1		
	j)	Sum	1		
A1.5	**Site establishment and removal upon completion**	Sum	1		
A1.6	**Site de-establishment and re-establishment**	Sum	1		
A2	**TIME RELATED ITEMS (SITE WORK ONLY)** **Project duration**	wks			
A2.1	Contractual requirements	Wks			
A2.2	**Facilities for the Contractor** (Operation and Maintenance)				
	a) Office and storage sheds	Wks			
	b) Ablution and latrine facilities	Wks			
	c) Tools and equipment	Wks			
	d) Water supply and power	Wks			
A2.3	Maintenance Of, Cleaning Of and Provisions For The Fac Engineer's Facilities	Wks			
A2.4	Full Time Site Supervision for duration of time on site. Including Project Manager, Quality Manager and 1 Foreman per work team (see Form F).	Wks			
	Section A: Preliminary and General carried forward				R

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Section A: Preliminary and General brought forward				
A2.5	Full time Site Safety Officer	Wks			
A2.6	Company and head office overheads	Wks			
A2.7	Other time related obligations				
	a) Safety Barricades & Signage	Wks			
	b) Fire / High Risk & Safety Watchers	Wks			
	c) Security	Wks			
	d) Accomodation & Transport	Wks			
	e) Scaffolding	Wks			
	f)	Wks			
	g)	Wks			
A3	**Dayworks** Allow the provisional sum stated to be expended at the discretion of the Engineer for works carried out on a dayworks basis	P.Sum	1	R 500 000.00	R 500 000.00
	Section A: Preliminary and General carried to Summary				R

ITEM NO.	DESCRIPTION	UNIT	QTY	SUPPLY RATE	AMOUNT
	SECTION B: PROCUREMENT, DELIVERY, OFF-LOADING AND STORE				
B1	**ASTM A106 GRADE B SEAMLESS PIPING:**				
B1.1	Pipes				
	a) Ø 350 dia (Sch 30)	m	164		
	b) Ø 250 dia (Sch 40)	m	23		
	c) Ø 200 dia (Sch 40)	m	29		
	d) Ø 150 dia (Sch 40)	m	4		
	e) Ø 100 dia (Sch 40)	m	33		
	f) Ø 80 dia (Sch 40)	m	23		
	g) Ø 65 dia (Sch 40)	m	40		
	h) Ø 50 dia (Sch 40)	m	6		
B2	**BENDS - ASTM A234 GRADE WPB FITTINGS**				
B2.1	Bends 90° (forged long radius) :				
	a) Ø 350 dia (Sch 30)	Ea	11		
	b) Ø 250 dia (Sch 40)	Ea	5		
	c) Ø 200 dia (Sch 40)	Ea	5		
	d) Ø 100 dia (Sch 40)	Ea	8		
	e) Ø 80 dia (Sch 40)	Ea	9		
	f) Ø 65 dia (Sch 40)	Ea	15		
	g) Ø 50 dia (Sch 40)	Ea	3		
B2.2	Bends 45° (forged long radius) :				
	a) Ø 250 dia (Sch 40)	Ea	1		
	b) Ø 100 dia (Sch 40)	Ea	2		
	c) Ø 80 dia (Sch 40)	Ea	1		
	d) Ø 65 dia (Sch 40)	Ea	1		
B3	**FLANGES ASTM A105 NORMALISED**				
B3.1	Flanges ANSI B 16.5 150 lb (weld neck): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 350 dia (Sch 30)	No.	90		
	b) Ø 250 dia (Sch 40)	No.	20		
	c) Ø 200 dia (Sch 40)	No.	17		
	d) Ø 150 dia (Sch 40)	No.	1		
	e) Ø 100 dia (Sch 40)	No.	6		
	f) Ø 80 dia (Sch 40)	No.	10		
	g) Ø 65 dia (Sch 40)	No.	5		
	h) Ø 50 dia (Sch 40)	No.	7		
B3.2	Flanges ANSI B 16.5 150 lb (Slip-on): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 250 dia (Sch 40)	No.	11		
B3.3	Flanges ANSI B 16.5 150 lb (Blind): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 400 dia (Sch 30)	No.	1		
	b) Ø 350 dia (Sch 30)	No.	3		
	c) Ø 250 dia (Sch 40)	No.	1		
	d) Ø 200 dia (Sch 40)	No.	1		
	e) Ø 100 dia (Sch 40)	No.	2		
	Section B: Procurement, delivery, off-loading and store carried forward				R

ITEM NO.	DESCRIPTION	UNIT	QTY	SUPPLY RATE	AMOUNT
	Section B: Procurement, delivery, off-loading and store brought forward				R
B4	**REDUCERS - ASTM A234 GRADE WPB FITTINGS**				
B4.1	Reducers - Forged:				
	a) Ø 350 x Ø 200 (Concentric)	No.	3		
	b) Ø 250 x Ø 200 (Concentric)	No.	3		
	c) Ø 250 x Ø 150 (Concentric)	No.	1		
	d) Ø 350 x Ø 250 (Concentric)	No.	1		
	e) Ø 250 x Ø 100 (Eccentric)	No.	1		
	f) Ø 250 x Ø 100 (Eccentric)	No.	1		
B5	**TEES - ASTM A234 GRADE WPB FITTINGS**				
B5.1	Reducing Tees - Forged:				
	a) Ø 350 x Ø 250	No.	1		
	b) Ø 350 x Ø 200	No.	5		
	c) Ø 200 x Ø 100	No.	1		
	d) Ø 100 x Ø 65	No.	2		
B5.2	Equal Tees - Forged:				
	a) Ø 350 dia (Sch 30)	No.	9		
	b) Ø 250 dia (Sch 40)	No.	1		
	c) Ø 200 dia (Sch 40)	No.	4		
	d) Ø 100 dia (Sch 40)	No.	4		
	e) Ø 65 dia (Sch 40)	No.	2		
B6	**WELDOLET, SCH 80, ASTM A-105**				
	a) Ø 80	No.	1		
	Section B: Procurement, delivery, off-loading and store carried to Summary				R

ITEM NO.	DESCRIPTION	UNIT	QTY	INSTALL RATE	AMOUNT
	SECTION C: MOVE INTO POSITION AND INSTALL				
C1	**ASTM A106 GRADE B SEAMLESS PIPING:**				
C1.1	Pipes				
	a) Ø 350 dia (Sch 30)	m	164		
	c) Ø 250 dia (Sch 40)	m	23		
	d) Ø 200 dia (Sch 40)	m	29		
	e) Ø 150 dia (Sch 40)	m	4		
	f) Ø 100 dia (Sch 40)	m	33		
	g) Ø 80 dia (Sch 40)	m	23		
	h) Ø 65 dia (Sch 40)	m	40		
	i) Ø 50 dia (Sch 40)	m	6		
C2	**BENDS - ASTM A234 GRADE WPB FITTINGS**				
C2.1	Bends 90° (forged long radius) :				
	a) Ø 350 dia (Sch 30)	Ea	11		
	c) Ø 250 dia (Sch 40)	Ea	5		
	d) Ø 200 dia (Sch 40)	Ea	5		
	e) Ø 100 dia (Sch 40)	Ea	8		
	f) Ø 80 dia (Sch 40)	Ea	9		
	g) Ø 65 dia (Sch 40)	Ea	15		
	h) Ø 50 dia (Sch 40)	Ea	3		
C2.2	Bends 45° (forged long radius) :				
	a) Ø 250 dia (Sch 40)	Ea	1		
	b) Ø 100 dia (Sch 40)	Ea	2		
	c) Ø 80 dia (Sch 40)	Ea	1		
	d) Ø 65 dia (Sch 40)	Ea	1		
C3	**FLANGES ASTM A105 NORMALISED**				
C3.1	Flanges ANSI B 16.5 150 lb (weld neck): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 350 dia (Sch 30)	No.	90		
	b) Ø 250 dia (Sch 40)	No.	20		
	c) Ø 200 dia (Sch 40)	No.	17		
	d) Ø 150 dia (Sch 40)	No.	1		
	e) Ø 100 dia (Sch 40)	No.	6		
	f) Ø 80 dia (Sch 40)	No.	10		
	g) Ø 65 dia (Sch 40)	No.	5		
	h) Ø 50 dia (Sch 40)	No.	7		
C3.2	Flanges ANSI B 16.5 150 lb (Slip-on): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 250 dia (Sch 40)	No.	11		
C3.4	Flanges ANSI B 16.5 150 lb (Blind): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 400 dia (Sch 30)	No.	1		
	b) Ø 350 dia (Sch 30)	No.	3		
	c) Ø 250 dia (Sch 40)	No.	1		
	d) Ø 200 dia (Sch 40)	No.	1		
	e) Ø 100 dia (Sch 40)	No.	2		
	Section C: Move into position and install ASTM A106 grade B seamless piping carried forward				R

ITEM NO.	DESCRIPTION	UNIT	QTY	INSTALL RATE	AMOUNT
	Section C: Move into position and install ASTM A106 grade B seamless piping brought forward				R
C4	**REDUCERS - ASTM A234 GRADE WPB FITTINGS**				
C4.1	Reducers - Forged:				
	a) Ø 350 x Ø 200 (Concentric)	No.	3		
	b) Ø 250 x Ø 200 (Concentric)	No.	3		
	c) Ø 250 x Ø 150 (Concentric)	No.	1		
	d) Ø 350 x Ø 250 (Concentric)	No.	1		
	e) Ø 250 x Ø 100 (Eccentric)	No.	1		
	f) Ø 250 x Ø 100 (Eccentric)	No.	1		
C5	**TEES - ASTM A234 GRADE WPB FITTINGS**				
C5.1	Reducing Tees - Forged:				
	a) Ø 350 x Ø 250	No.	1		
	b) Ø 350 x Ø 200	No.	5		
	c) Ø 200 x Ø 100	No.	1		
	d) Ø 100 x Ø 65	No.	2		
C5.2	Equal Tees - Forged:				
	a) Ø 350 dia (Sch 30)	No.	9		
	b) Ø 250 dia (Sch 40)	No.	1		
	c) Ø 200 dia (Sch 40)	No.	4		
	d) Ø 100 dia (Sch 40)	No.	4		
	e) Ø 65 dia (Sch 40)	No.	2		
C6	**WELDOLET, SCH 80, ASTM A-105**				
	a) Ø 80	No.	1		
	Section C: Move into position and install ASTM A106 grade B seamless piping carried to Summary				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	CORROSION PROTECTION AND PAINT RATE	AMOUNT
	SECTION D: CORROSION PROTECTION & PAINTING				
D1	**ASTM A106 GRADE B SEAMLESS PIPING:**				
D1.1	Pipes				
	a) Ø 350 dia (Sch 30)	m	164		
	c) Ø 250 dia (Sch 40)	m	23		
	d) Ø 200 dia (Sch 40)	m	29		
	e) Ø 150 dia (Sch 40)	m	4		
	f) Ø 100 dia (Sch 40)	m	33		
	g) Ø 80 dia (Sch 40)	m	23		
	h) Ø 65 dia (Sch 40)	m	40		
	i) Ø 50 dia (Sch 40)	m	6		
D2	**BENDS - ASTM A234 GRADE WPB FITTINGS**				
D2.1	Bends 90° (forged long radius) :				
	a) Ø 350 dia (Sch 30)	Ea	11		
	b) Ø 250 dia (Sch 40)	Ea	5		
	c) Ø 200 dia (Sch 40)	Ea	5		
	d) Ø 100 dia (Sch 40)	Ea	8		
	e) Ø 80 dia (Sch 40)	Ea	9		
	f) Ø 65 dia (Sch 40)	Ea	15		
	g) Ø 50 dia (Sch 40)	Ea	3		
D2.2	Bends 45° (forged long radius) :				
	a) Ø 250 dia (Sch 40)	Ea	1		
	b) Ø 100 dia (Sch 40)	Ea	2		
	c) Ø 80 dia (Sch 40)	Ea	1		
	d) Ø 65 dia (Sch 40)	Ea	1		
D3	**FLANGES ASTM A105 NORMALISED**				
D3.1	Flanges ANSI B 16.5 150 lb (weld neck): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 350 dia (Sch 30)	No.	90		
	b) Ø 250 dia (Sch 40)	No.	20		
	c) Ø 200 dia (Sch 40)	No.	17		
	d) Ø 150 dia (Sch 40)	No.	1		
	e) Ø 100 dia (Sch 40)	No.	6		
	f) Ø 80 dia (Sch 40)	No.	10		
	g) Ø 65 dia (Sch 40)	No.	5		
	h) Ø 50 dia (Sch 40)	No.	7		
D3.2	Flanges ANSI B 16.5 150 lb (Slip-on): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 250 dia (Sch 40)	No.	11		
D3.4	Flanges ANSI B 16.5 150 lb (Blind): (Gaskets and Bolts-ups measured elsewhere)				
	a) Ø 400 dia (Sch 30)	No.	1		
	b) Ø 350 dia (Sch 30)	No.	3		
	d) Ø 250 dia (Sch 40)	No.	1		
	e) Ø 200 dia (Sch 40)	No.	1		
	f) Ø 100 dia (Sch 40)	No.	2		
	Section D: Corrosion protection and painting ASTM A106 grade B seamless piping carried forward:				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	CORROSION PROTECTION AND PAINT RATE	AMOUNT
	Section D: Corrosion protection and painting ASTM A106 grade B seamless piping brought forward:				R
D5	REDUCERS - ASTM A234 GRADE WPB FITTINGS				
D5.1	Reducers - Forged:				
	a) Ø 350 x Ø 200 (Concentric)	No.	3		
	b) Ø 250 x Ø 200 (Concentric)	No.	3		
	c) Ø 250 x Ø 150 (Concentric)	No.	1		
	d) Ø 350 x Ø 250 (Concentric)	No.	1		
	e) Ø 250 x Ø 100 (Eccentric)	No.	1		
	f) Ø 250 x Ø 100 (Eccentric)	No.	1		
D6	TEES - ASTM A234 GRADE WPB FITTINGS				
D6.1	Reducing Tees - Forged:				
	a) Ø 350 x Ø 250	No.	1		
	b) Ø 350 x Ø 200	No.	5		
	c) Ø 200 x Ø 100	No.	1		
	d) Ø 100 x Ø 65	No.	2		
D6.2	Equal Tees - Forged:				
	a) Ø 350 dia (Sch 30)	No.	9		
	b) Ø 250 dia (Sch 40)	No.	1		
	c) Ø 200 dia (Sch 40)	No.	4		
	d) Ø 100 dia (Sch 40)	No.	4		
	e) Ø 65 dia (Sch 40)	No.	2		
D7	WELDOLET, SCH 80, ASTM A-105				
	a) Ø 80	No.	1		
D8	TRANSPORT OF PIPING OFF-SITE FOR INTERNAL LINING AND RETURN TO SITE				
	a) LUMP SUM	Lot	1		
	Section D: Corrosion protection and painting ASTM A106 grade B seamless piping carried to summary:				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	WORKS RATE	AMOUNT
	SECTION E: WORKS				
E1	**BOLT UPS**				
E1.1	Bolt up ASTM A105 150 lb Flanges: Supply and Install 3mm thk. Klingersil C4430 gaskets compl. to suit flange bolt-ups INCLUDING all galvanised nuts, bolts and washers to suit ALL BOLT-UPS TO BE DENSO WRAPPED.				
	a) Ø 400 dia	No.	1		
	b) Ø 350 dia	No.	93		
	d) Ø 250 dia	No.	21		
	e) Ø 200 dia	No.	18		
	f) Ø 150 dia	No.	1		
	g) Ø 100 dia	No.	8		
	h) Ø 80 dia	No.	10		
	i) Ø 65 dia	No.	5		
	j Ø 50 dia	No.	7		
E2	**WELDING** Weld the following diameter pipe, inclusive of cutting and preparation of the ends, and all consumables				
E2.1	STAINLESS STEEL BUTT WELDS				
	a) Ø 350 dia	No.	201		
	b) Ø 250 dia	No.	52		
	c) Ø 200 dia	No.	63		
	d) Ø 150 dia	No.	3		
	e) Ø 100 dia	No.	56		
	f) Ø 80 dia	No.	38		
	g) Ø 65 dia	No.	57		
	h) Ø 50 dia	No.	16		
E2.2	STAINLESS STEEL FILLET WELDS				
	a) Ø 200 dia	No.	13		
	b) Ø 80 dia	No.	2		
E3	**TESTING**				
E3.1	HYDROTEST Supply pump, labor and all fittings as may be required. Test fluid/water (for client supply). Measured per metre of pipe. Measured through fittings and equipment				
	a) Ø 250 dia	m	189		
	b) Ø 150 dia	m	27		
	c) Ø 100 dia	m	34		
	d) Ø 80 dia	m	5		
	e) Ø 50 dia	m	38		
	f) Ø 40 dia	m	27		
	g) Ø 25 dia	m	46		
	h) Ø 15 dia	m	7		
E3.2	RADIOGRAPHS TO ANSI B31.3 Contract third party inspector and supply results to engineer				
	a) Ø 250 dia	No.	31		
	b) Ø 150 dia	No.	8		
	c) Ø 100 dia	No.	10		
	d) Ø 80 dia	No.	1		
	e) Ø 50 dia	No.	9		
	f) Ø 40 dia	No.	6		
	g) Ø 25 dia	No.	9		
	h) Ø 15 dia	No.	3		
	Section E: Works carried forward				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY	WORKS RATE	AMOUNT
	Section E: Works brought forward				R
E3.3	MPI and DYE PENETRANT TESTING				
	a) Ø 100 dia	No.	13		
	b) Ø 40 dia	No.	2		
E4	**PAINTING**				
E4.1	Supply all labour and material to paint two coats to valves, flanges and pumpsets etc. in order to touch up handling damage and colour code.	No.	29		
	Section E: Works carried to Summary				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY SCHED	SUPPLY RATE ZAR	AMOUNT ZAR
	SECTION F1: SUPPLY OF EQUIPMENT **Including Procure, Deliver, Receive, Off-load, Store and Protect. Including all documentation.**				
F1.1	GATE VALVES - RESILENT SEAL, FLANGED 150lb RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION				
	a) Ø 350 dia	No.	4		
	b) Ø 250 dia	No.	1		
	c) Ø 100 dia	No.	8		
F1.2	NON-RETURN VALVES. SWIN CHECK TYPE. FLANGED 150lb RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION. NON-SLAM DESIGN				
	a) Ø 350 dia	No.	4		
F1.3	BUTTERFLY VALVES - WAFER FOR 150lb FLANGES RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION				
	a) Ø 350 dia	No.	4		
	b) Ø 250 dia	No.	2		
F1.4	INBAL VALVES UL / FM LISTED FOR FIRE FIGHTING USE RATED TO 16B. WAFER FOR 150LB FLANGES SUITABLE FOR FOAM PRE-MIX AND SEA WATER				
F1.4.1	PRESSURE CONTROL VALVE - MANUAL MODEL 799-D01-R01				
	a) Ø 150 dia	No.	1		
F1.4.2	FIRE PUMP RELIEF VALVE - MODEL 799-S				
	a) Ø 200 dia	No.	2		
F1.4.3	DELUGE VALVE - SOLENOID CONTROLLED MODEL 799-DG-04-C(IP)				
	a) Ø 200 dia	No.	3		
	b) Ø 150 dia	No.	3		
	c) Ø 80 dia	No.	2		
F1.5	BACK FLOW PREVENTOR FLANGED 150lb. RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE.				
	a) Ø 100 dia	No.	1		
F1.6	SIGHT GLASS FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER				
	a) Ø 250 dia	No.	1		
	b) Ø 50 dia	No.	1		
	Section F1: Supply of equipment carried forward				R

ITEM NO.	SHORT DESCRIPTION	UNIT	QTY SCHED	SUPPLY RATE ZAR	AMOUNT ZAR
	Section F1: Supply of equipment brought forward				R
F1.7	PRESSURE GAUGES - COMPLETE WITH SHUT-OFF VALVE FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER				
	a) Ø 150 Dial. 0-2500kPa	No.	2		
F1.8	TEMPERATURE GAUGES - COMPLETE WITH SHUT-OFF VALVE FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER				
	a) Ø 150 Dial. 0-100°C	No.	2		
F1.9	RESTRICTION ORIFICES WITH HANDLE FOR INSERTION BETWEEN 150lb FLANGES 10mm THICK STAINLESS STEEL 316L DRILLED TO SUIT ON SIGHT				
	a) Ø 100 dia	No.	3		
F1.10	FOAM ADMIXING UNIT FIREDOS FD15000/3-PP-S (3% DOSING) SUITABLE FOR SEA WATER. FLANGED 150lb. RATED TO 16b. COMPLETE WITH FOAM RETURN, MANUAL CRANK, HIGH TEMPERATURE MOTOR. PROXIMITY SWITCHES (220Vac) ON VALVES UL OR FM LISTED.				
	a) Ø 350 dia	No.	2		
F1.11	PLASTIC FOAM CONCENTRATE TANK 10,000ℓ JOJO TANK. SUITABLE FOR FOAM CONCENTRATE FLANGES AS PER DRAWING				
	a) 10,000ℓ	No.	1		
F1.12	HYDRAULIC OSCILLATING MONITORS				
	a) Supply of 4,000ℓ/min temporary hydraulic oscillating foam monitor as per existing for duration of existing monitor overhaul.	No.	3		
	b) Overhaul of existing 4,000ℓ/min hydraulic oscillating monitor	No.	3		

ITEM NO.	SHORT	UNIT	QTY	INSTALL RATE	AMOUNT
	SECTION F2: INSTALLATION OF EQUIPMENT **Including Installation and Commissioning** **Qualified staff to be provided for Commissioning**				
F2.1	**GATE VALVES - RESILENT SEAL, FLANGED 150lb RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION**				
	a) Ø 350 dia	No.	4		
	b) Ø 250 dia	No.	1		
	c) Ø 100 dia	No.	8		
F2.2	**NON-RETURN VALVES. SWIN CHECK TYPE. FLANGED 150lb RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION. NON-SLAM DESIGN**				
	a) Ø 350 dia	No.	4		
F2.3	**BUTTERFLY VALVES - WAFER FOR 150lb FLANGES RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE. SUITABLE FOR SEA WATER, FOAM CONCENTRATE AND FOAM PRE-MIX SOLUTION**				
	a) Ø 350 dia	No.	4		
	b) Ø 250 dia	No.	2		
F2.4	**INBAL VALVES** **UL / FM LISTED FOR FIRE FIGHTING USE** **RATED TO 16B. WAFER FOR 150LB FLANGES** **SUITABLE FOR FOAM PRE-MIX AND SEA WATER**				
F2.4.1	PRESSURE CONTROL VALVE - MANUAL MODEL 799-D01-R01				
	a) Ø 150 dia	No.	1		
F2.4.2	FIRE PUMP RELIEF VALVE - MODEL 799-S				
	a) Ø 200 dia	No.	2		
F2.4.3	DELUGE VALVE - SOLENOID CONTROLLED MODEL 799-DG-04-C(IP)				
	a) Ø 200 dia	No.	3		
	b) Ø 150 dia	No.	3		
	c) Ø 80 dia	No.	2		
F2.5	**BACK FLOW PREVENTOR FLANGED 150lb. RATED TO 16B. UL OR FM LISTED FOR FIRE FIGHTING USE.**				
	a) Ø 100 dia	No.	1		
F2.6	**SIGHT GLASS FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER**				
	a) Ø 250 dia	No.	1		
	b) Ø 50 dia	No.	1		
	Section F2: Installation of equipment carried forward				R

ITEM NO.	SHORT	UNIT	QTY	INSTALL RATE	AMOUNT
	Section F2: Installation of equipment barought forward				R
F2.7	PRESSURE GAUGES - COMPLETE WITH SHUT-OFF VALVE FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER a) Ø 150 Dial. 0-2500kPa	No.	2		
F2.8	TEMPERATURE GAUGES - COMPLETE WITH SHUT-OFF VALVE FLANGED 150lb. RATED TO 16B. SUITABLE FOR SEA WATER a) Ø 150 Dial. 0-100°C	No.	2		
F2.9	RESTRICTION ORIFICES WITH HANDLE FOR INSERTION BETWEEN 150lb FLANGES 10mm THICK STAINLESS STEEL 316L DRILLED TO SUIT ON SIGHT a) Ø 100 dia	No.	3		
F2.10	FOAM ADMIXING UNIT FIREDOS FD15000/3-PP-S (3% DOSING) SUITABLE FOR SEA WATER. FLANGED 150lb. RATED TO 16b. COMPLETE WITH FOAM RETURN, MANUAL CRANK, HIGH TEMPERATURE MOTOR. PROXIMITY SWITCHES (220Vac) ON VALVES UL OR FM LISTED. a) Ø 350 dia	No.	2		
F2.11	PLASTIC FOAM CONCENTRATE TANK 10,000ℓ JOJO TANK. SUITABLE FOR FOAM CONCENTRATE FLANGES AS PER DRAWING a) 10,000ℓ	No.	1		
F2.12	FLOW METER FLANGED 150lb. a) Ø 250 dia	No.	1		
F2.13	ULTRASONIC LEVEL SENSOR FLANGED 150lb a) Ø 80 dia	No.	2		
F2.14	REMOVAL & INSTALLATION OF HYDRAULIC MONITORS a) 4,000ℓ/min hydraulic oscillating monitors (including bolt-up)	No.	3		
	Section F2: Installation of equipment Carried to Summary				R

ITEM NO.	DESCRIPTION	UNIT	QTY	SUPPLY RATE	AMOUNT
	SECTION G1: MISCELLANEOUS SUPPLY				
G1.1	**U-BOLTS**				
	Install Pipes on Metal Structures				
	INCLUDING DENSO WRAPPING				
	a) Ø 350 dia pipe - M24 size bolt, washers and nuts	No.	27		
	b) Ø 250 dia pipe - M20 size bolt, washers and nuts	No.	8		
	c) Ø 200 dia pipe - M16 size bolt, washers and nuts	No.	8		
	d) Ø 150 dia pipe - M16 size bolt, washers and nuts	No.	6		
	e) Ø 100 dia pipe - M12 size bolt, washers and nuts	No.	9		
	f) Ø 80 dia pipe - M12 size bolt, washers and nuts	No.	5		
	g) Ø 65 dia pipe - M12 size bolt, washers and nuts	No.	6		
	h) Ø 50 dia pipe - M10 size bolt, washers and nuts	No.	3		
G1.2	**DEMOLITION**				
	REMOVE FROM SITE TO ELSEWHERE IN EAST LONDON				
G1.2.1	**EQUIPMENT**				
	INCLUDING DISCONNECTING AND MAKE SAFE				
	a) DIESEL FIRE WATER PUMPS WITH EXHAUSTS	No.	2		
	b) ELECTRICAL PUMPS	No.	2		
	c) PROGRESSIVE CAVITY PUMP	No.	1		
	d) FOAM CONCENTRATE TANKS	No.	6		
	e) VARIOUS VALVES	No.	20		
	f) DIESEL SUPPLY SYSTEM	No.	1		
G1.2.2	**COLD CUT & REMOVE EXISTING PIPES**				
	MEASURED THROUGH THE FITTINGS				
	a) Ø 400 dia	m	10		
	b) Ø 200 dia	m	120		
	c) Ø 150 dia	m	20		
	d) Ø 100 dia	m	50		
	e) Ø 80 dia AND SMALLER	m	20		
G1.3	**SIGNAGE**				
	a) PROVISIONAL SUM	Amt.	1	R 10 000.00	R 10 000.00
G1.4	**MONITOR HYDRAULICS MODIFICATIONS**				
	APPOINTMENT OF NOMINATED SUB-CONTRACTOR				
	FOR MONITOR HYDRAULICS MODIFICATION				
	a) PROVISIONAL SUM FOR FLUID POWER	Amt.	1	R 1 100 000.00	R 1 100 000.00
G1.5	**FOAM CONCENTRATE CROSS PUMPING**				
	a) 40,000ℓ	Lot	1		
G1.6	**ALLOWANCE FOR UPVC PIPING REPAIR**				
	a) Material Supply	Amt.	1	R 50 000.00	R 50 000.00
	Section G1: Miscellaneous supply Carried to Summary				R

ITEM NO.	DESCRIPTION	UNIT	QTY	INSTALL RATE	AMOUNT
	SECTION G1: MISCELLANEOUS INSTALLATION				
G2.1	**U-BOLTS**				
	Install Pipes on Metal Structures				
	Supply all labour and material to drill and fit U-bolts to existing steel structures. Material to be galvanised steel. Cold galve to be applied to holes drilled. Teflon strip to be placed under pipe and for u-bolt.				
	TO BE DENSO WRAPPED				
	a) Ø 350 dia pipe - M24 size bolt, washers and nuts	No.	11		
	b) Ø 250 dia pipe - M20 size bolt, washers and nuts	No.	8		
	c) Ø 200 dia pipe - M16 size bolt, washers and nuts	No.	9		
	d) Ø 150 dia pipe - M16 size bolt, washers and nuts	No.	6		
	e) Ø 100 dia pipe - M12 size bolt, washers and nuts	No.	5		
	f) Ø 80 dia pipe - M12 size bolt, washers and nuts	No.	2		
	g) Ø 65 dia pipe - M12 size bolt, washers and nuts	No.	2		
	h) Ø 50 dia pipe - M10 size bolt, washers and nuts	No.	4		
G2.2	**SIGNAGE**				
	a) PROVISIONAL SUM	Amt.	1	R 10 000.00	R 10 000.00
G2.3	**MONITOR HYDRAULICS MODIFICATIONS**				
	APPOINTMENT OF NOMINATED SUB-CONTRACTOR FOR MONITOR HYDRAULICS MODIFICATION				
	a) PROVISIONAL SUM FOR FLUID POWER	Amt.	1	R 100 000.00	R 100 000.00
G2.4	**FOAM CONCENTRATE CROSS PUMPING**				
	a) 40,000ℓ	Lot	1		
G2.5	**ALLOWANCE FOR TEMPORARY PIPE SUPPORTS**	Lot	1		

ITEM NO.	DESCRIPTION	NO. OFF	DURATION SCHED (HOURS)	HOURLY RATE	AMOUNT
	SECTION H: DAYWORKS & COMMISSIONING				
	INITIAL & FINAL COMMISSIONING				
H1	**Supply of Labour & Consumables to assist the Engineer in Commissioning of the Works**				
	Tenderer to supply day rates for all labour to be used (Preliminary & General Charges are charged separately in Section A).				
	a) Fitter	1	40		
	b) Welder	1	40		
	c) Semi-skilled	2	40		
	d) Un-skilled	4	40		
	e)				
	f)				
	g)				
H2	**Commissioning of specialised equipment**				
	a) INBAL VALVES	11			
	b) FOAM ADMIXING UNITS	2			
H3	**Allowance for UPVC Piping Repair**				
	Tenderer to supply day rates for all labour to be used Excavations & Backfilling by Others (Preliminary & General Charges are charged separately in Section A).				
	a) Fitter	1	40		
	b) Semi-skilled	2	40		
	c) Un-skilled	4	40		
	d)				
	e)				

SUMMARY OF SCHEDULES

SECTION	DESCRIPTION	TOTALS
A	PRELIMINARY & GENERAL	R
B	PIPING AND FITTINGS - SUPPLY	R
C	PIPING AND FITTINGS - INSTALL	R
D	CORROSION PROTECTION & PAINTING	R
E	WORKS	R
F1	EQUIPMENT - SUPPLY	R
F2	EQUIPMENT - INSTALL	R
G1	MISCELLANEOUS - SUPPLY	R
G2	MISCELLANEOUS - INSTALL	R
H	COMMISSIONING	R
	Total excl. vat carried forward to C1.1 Form of Offer	**R**

Part 3 : Scope of Work

Document reference	Title	No of pages
	This cover page	1
C3.1	Works Information	59
Annexure 1	HAS-STD-001Health and Safety Specification	83
Annexure 2	ENV-STD-001 Standard Environmental Specification	14
Annexure 3	ENV-STD-002 Construction Environmental Plan	33
	Total number of pages	190

C3.1 Works Information

Contents

1. Description of the Works

1.1 Executive Overview

The works include for the upgrade of the fire protection system at the Tanker Berth, Port of East London

1.2 *Employer's* Objectives

It is the objective of the *Employer* to achieve 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 at the Tanker Berth, Port of East London.

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
BBBEE	Broad Based Black Economic Empowerment
CEMP	Construction Environmental Management Plan
COID Act	The Compensation for Occupation Injuries and Deceases Act
CSHEO	Contractor's Safety, Health and Environmental Officer
CM	Construction Manager
DTI	Department of Trade and Industry
DGN	Filename extension for Microstation Drawings
DWG	Filename extension for Autocad Drawings
EDMS	Electronic Document Management System
EO	Environmental Officer
HSR	Health and Safety Representative
PES	Project Environmental Specifications
PHA	Preliminary Hazard Assessment
PSPM	Project Safety Program Manager
PSSM	Project Site Safety Manager
QA	Quality Assurance
QC	Quality Control
SANS	South African National Standards

Abbreviation	Meaning given to the abbreviation
SASRIA	South African Special Risks Insurance Association
SES	Standard Environmental Specification
SHE	Safety, Health and Environment
SHEC	Safety, Health and Environment Co-ordinator
SHEO	Safety, Health and Environmental Officer
SIP	Site Induction Programme
SMP	Safety Management Plan
SSRC	Site Safety Review Committee
iPAS DM	Primary software tool used for Document Management

2. Management and Start Up

2.1 Management Meetings

The *Contractor* shall attend management meetings at the *Project Manager's* request. The *Contractor* will also be required to attend a safety meeting. 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) subcontractor 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 purpose 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.

2.2 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.

2.3 Safety Risk Management

2.3.1 General

The *Contractor's* attention is directed to the Health and Safety Specification HAS-STD-001, and in particular to his Health & 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) The site is a hazardous area and therefore all statutory regulations, as well as those of the Employer as set out in the port SHE Rules, shall apply; The *Contractor's* personnel shall be subject to all safety procedures and regulations as laid down by the Employer.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) 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.

(g) 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.

(h) 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.

(i) All clauses in this contract pertaining to health and safety form an integral part of this contract and if not complied with may be construed 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 *Project Manager*. This will be at a time and location Transnet will arrange.

2.3.2 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 of these hazards. The HIRA document must be signed by the abovementioned representatives, and be accepted by the *Project Manager*, before any construction work can commence.

2.3.3 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".** Transnet Freight Rail RME 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.

2.3.4 Safety meetings

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's* and therefore be covered under the rates tendered.

- NB: The tendered amount shall include for all costs to confirm to the Health and Safety requirements.

2.4 Environmental Constraints and Management

The *Contractor* shall provide a *Contractor's* Environmental Management Plan (CEMP) addressing all the potential impacts of his activities. The *Project Manager* has the right to request additional specific work method statements should in his opinion this be required.

Progressive and systematic finishing and tidying-up will form an essential part of this contract. Under no circumstances shall spoil, rubble, materials, equipment or unfinished operations be allowed to accumulate unnecessarily

No material shall be dumped on the *Employer's* property and no suitable material shall be disposed of if it is required elsewhere for the proper completion of the contract.

All discarded/spoiled/hazardous material shall be disposed of at an accepted registered dumpsite and the *Contractor* shall furnish the *Project Manager* with receipts and official disposal certificates from the dumpsite.

The *Contractor* shall make good all damages to the environment to the satisfaction of the *Project Manager's* Waste Management Objective.

USE OF CEMENT & CONCRETE:

Cement and concrete are regarded as hazardous to the natural environment on account of the very high pH of the material, and the chemicals contained therein. The contractor shall therefore ensure that concrete is not mixed directly on the ground and that the visibility remains of concrete, either solid, or from washings, are physically removed immediately and disposed of as waste. Washing the visible remains into the ground will not be acceptable.

NOISE POLLUTION:

Equipment used on the site shall be properly muffled and maintained so as to reduce noise generation to the minimum. Working procedures shall be structured so as to avoid the unnecessary generation of noise.

DUST CONTROL

Dust has been identified as having a serious environmental impact. The Contractor is required to prevent the creation of dust.

The *Contractor* shall ensure that no dust is generated during the mixing process of construction materials used during any stage of the construction process.

The Contractor shall, at all times, comply with the statutes that prohibit pollution of any kind. These statutes are enacted in the following legislation:

- The National Environmental Management Act, 107/1998
- The Environmental Conservation Act, 73/1989; and
- The National Water Act, 36/1998

The *Contractor* shall appoint a responsible person to ensure that no incident shall occur on site that could cause pollution. Where the Contractor was negligent and caused any form of pollution the damage shall be rectified at the Contractors cost.

NB: The tendered amount shall include for all costs to conform to the Environmental constraints and management requirements.

2.5 Quality Management System

The onus rests on the *Contractor* to produce work which will conform in quality and accuracy of detail to the requirements of the Specifications and Drawings, and the *Contractor* must, at his own expense, institute a quality control system and provide experienced technical staff together with all transport, instruments and equipment to ensure adequate supervision and positive control of the works at all times.

All materials should conform to the specifications and standards set for the project and shall be inspected in accordance with accepted Quality Control Plans (QCP's). All plant should be checked before work commences.

The *Contractor* shall submit his proposed Quality Control Procedures (QCP) to the *Project Manager* for approval. Site Access will not be permitted until the QCP is to the *Project Managers* satisfaction

Transnet Freight Rail RME will have the right to inspect the work at any time during the progress of the contract.

2.6 Programming Constraints

2.6.1 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.

2.6.2 Programme submission

As identified in the Contract Data Part 2, a program is to be submitted with the tender. This program shall comply with the requirements as indicated in the Works Information and with specific reference 31.2 of the NEC3 Engineering Construction Contract. The program shall be submitted in both hard and soft copy forms using a computer software package accepted by the *Project Manager*.

The preferred software package is Microsoft Projects.

2.6.3 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 program, in the 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 program;
   (i) the first programme activity bar, and

   (ii) 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.

2.6.4 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; and

- Actions required to remedy any deviations.

Weekly progress reviews shall be conducted to assist control of the work under the Contract. The *Contractor* shall provide this information upon request from the *Project Manager*, however any identified deviations shall be automatically reported to the *Project Manager.*

2.6.5 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 summarise 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, and
- 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.

2.7 *Contractor*'s Management, Supervision and Key People

The *Contractor* shall provide an organogram showing his key people and their lines of authority and communication.

The *Contractor* shall not change the project team as detailed in the organogram submitted by the *Contractor* and accepted by the *Project Manager* without the prior written approval of the *Project Manager,* which approval will not unreasonably be withheld by the *Project Manager*

The contract work must conform to current professional engineering practices, standards and specifications and the work must be completed to the satisfaction of the *Project Manager.*

The *Contractor* and his sub-contractors, if any shall have suitably qualified Supervisors in charge of the project. The names and qualifications of the Supervisors together with full details of their experience in this field of work must be furnished. The tenderer must furnish the names and addresses of all proposed sub-contractors, which is subject to approval.

2.8 Insurance Provided by the *Employer*

Procedures for making insurance claims can be obtained from the *Project Manager*.

2.9 Contract Change Management

The standard reporting forms that shall be used will be provided to the *Contractor*.

No additional requirements apply to ECC3 Clause 60 series.

3. Engineering and the *Contractor*'s Design

3.1 Employer's Design

The Employer's design for the works is:

- Works Information
- Technical specifications

3.2 Parts of the Works which the *Contractor* is to Design

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

- All temporary works
- All other items required for the works

3.3 Procedure for Submission and Acceptance of *Contractor's* Design

The Contractor shall address the following procedures:

The *Contractor* submits details of his temporary works 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 of all materials to be used in the *Works* and which are to be supplied by the *Contractor* for the approval of the *Project Manager* prior to their incorporation into the work. If accepted, the samples so submitted will be kept by the *Project Manager* as standards for the duration of the Contract. No materials inferior in quality, workmanship or appearance to the accepted samples shall be used.

All alternative materials not defined herein or SANS proposed by the *Contractor* shall be tested for acceptability by the *Contractor* and the results of the tests made available to the *Project Manager*. All such materials then require the approval of the *Project Manager*. The costs of the tests shall be borne by the *Contractor*.

The *Project Manager's* approval is required for any manufacturer's published instructions prior to their use by the *Contractor*.

3.4 Equipment required to be included in the *works*

None

4. Procurement

4.1 The *Contractor's* Invoices

4.1.1 When the *Project Manager* certifies payment (see ECC3 Clause 51.1) following an assessment date, the *Contractor* complies with *the Employer's* procedure for invoice submission.

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

4.1.3 The invoice states the following:

- Invoice addressed to Transnet SOC Ltd
- Transnet Limited VAT No: 4720103177
- Invoice number
- The *Contractor's* VAT Number
- The Contract number CPT 1115374.001

4.1.4 The invoice contains supporting detail.

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

Invoices submitted by post are addressed to:

Transnet Freight Rail RME
P.O. Box 338
Kasselsvlei
7535

For the attention of Arthur Mdingi, Transnet Freight Rail RME

4.1.6 Invoices submitted by hand are presented to:

Transnet Freight Rail RME
Off Robert Sobukwe Road
Behind Transnet Park
Bellville South

For the attention of Arthur Mdingi, Transnet Freight Rail RME

The invoice and statement are presented as originals. The originals must be in receipt by the *Project Manager* on or before the last working day of the month.

4.2 People

BBBEE and preferencing scheme

Points will be awarded to tenderers based on preferencing using the balanced Department of Trade and Industry (DTI) scorecard. The application of the Broad Based Black Economic Empowerment recognition levels and score preferencing points are as follows:

Contribution Level	Qualification Points on the generic scorecard	Broad-Based BEE Recognition Level	Preferencing Points Scored
Level 1	Greater than or equal to 100 points	135%	10
Level 2	Greater than or equal to 85 points but less than 100 points	125%	9
Level 3	Greater than or equal to 75 points but less than 85 points	110%	8
Level 4	Greater than or equal to 65 points but less than 75 points	100%	5
Level 5	Greater than or equal to 55 points but less than 65 points	80%	4
Level 6	Greater than or equal to 45 points but less than 55 points	60%	3
Level 7	Greater than or equal to 40 points but less than 55 points	50%	2
Level 8	Greater than or equal to 30 points but less than 40 points	10%	1
Non-compliant	Less than 30 points	0%	0

On the basis the *Contractor* with a BBBEE recognition level of 135% will achieve 10 points, and the points will be allocated accordingly on a pro-rata basis as per the table above.

In addition to the above, provision is made for the case where a *Contractor* has greater than 50% black ownership. In this instance, provided the requisite documentary evidence is supplied, the *Contractor* will then be awarded preference point's one level above that awarded based on the DTI scorecard. For example, a *Contractor* with > 50% black ownership obtaining a Level 6 contribution equating to 5 points will be awarded 6 preferencing points (Level 5).

Contractors claiming Preference Points must submit together with the tender document their BEE verification certificates issued by Accredited Verification Agencies or Verification Agencies that are in possession of a valid pre-assessment letter from the South African National Accreditation System (SANAS). Despite this provision, all verification certificates issued by non-accredited verification agencies before 31 January 2010 will remain valid for 12 month from the date of issue (Refer Government Gazette Notice No. 810 of 2009 – 31 July 2009).

Should the BBBEE rating not be provided, Transnet reserves the right to award no points and/or declare the tender void. Transnet also reserves the right to carry out an independent audit of the *Contractor's* scorecard components at any stage from the date of close of the tenders until completion of the contract.

4.3 Subcontracting

4.3.1 Preferred Subcontractors

The *Contractor* shall not appoint or bring subcontractors onto site without the prior approval of the *Project Manager*, and all subcontractors will be required to conform to the requirements as set out herein as if they were employees of the *Contractor*.

The *Contractor* shall not deviate from the accepted subcontractor's list without prior approval of the *Project Manager.*

4.3.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* shall appoint his subcontractors under the NEC3 Engineering Contract Sub Contract unless accepted otherwise by the *Project Manager*.

4.4 Plant and Materials

All plant used by the *Contractor* on site shall be properly maintained and operated. All vehicles on public roads shall be roadworthy, with the necessary licenses, permits and safety requirements. No transporting of people in the load box of any LDV's without the correct seating and seatbelts or a Kombi may be utilized providing that it has RWC.

The *Contractor* replaces any Plant and Materials subject to breakages (whether in the Working Areas or not) or any Plant and Materials not conforming to standards or specifications stated and notifies the Project Manager on each occasion where replacement is required.

The *Contractor* provides all other Plant and Materials necessary for the works not specifically stated to be provided "free issue" by the *Employer*.

4.5 Marking Plant and Materials outside the Working Areas

The *Contractor* prepares and marks items of Plant and Materials outside the Working Areas with the *Contractors* Logo.

5. Construction

5.1 Temporary *works*, Site Services & Construction Constraints

5.1.1 Employer's Site entry and security control, permits, and Site regulations

The work is to be carried out at the Tanker Berth, Port of East London within an access controlled area. The Depot will be fully operational during the construction period. Working hours of the depot will be from 07:00 to 16:00.

The *Contractor* shall ensure the safe passage of traffic to and around the working areas at all times. This shall entail the provision of flagmen, protective barriers, lanterns, signs, etc. for protection, direction and control of traffic. No lights are to be fixed anywhere without written approval from the *Project Manager*.

The *Contractor* shall organise the work to cause the least possible inconvenience to any operations within the Port.

Access permits for the contractor's staff and vehicles to be arranged with the *Project Manager* for the duration of the construction period.

Access permits shall be made by the *Contractor* to a standard acceptable to the *Project Manager*, be allowed for within the *Contractor's* access control provision and shall include at least the following information:

- Company name and logo.
- Employees name and ID number.
- Date of issue and period of validity.
- Company details
  - *Telephone number*
  - *Fax number*
  - *E-mail address*

5.1.2 Restrictions to Access 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. This information relating to working hours shall be supplied to the *Project Manager* prior to commencement of the proposed working hours.

The *Contractor* keeps daily records of his people engaged on the Site and Working Areas (including Subcontractors) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

The *Contractor* shall take note that the existing fire system will remain operational during the project execution until such time when the new system needs to be connected to existing. The *contractor's* planned shutdowns should be communicated in advanced with the *Project Manager*. The *Contractor* shall take note that when there is a vessel at the berth no construction activities will be allowed.

5.1.3 Health and safety facilities on Site

The provision of security for the *Contractor's* site establishment shall be his own responsibility.

Both the "Factories, Machinery and Building work Act (Act 22 of 1941) and the "Machinery and Occupational Safety Act (Act 6 of 1983)" shall, wherever they appear in the SANS 1200 standardized specifications, be substituted by the "Occupational Health and Safety Act (Act 85 of 1993)".

5.1.4 Title to Materials from Demolition and Excavation

Before any material arising from the demolitions is removed from site, the material must be offered to Transnet at no cost

5.1.5 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.*

5.1.6 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*.

5.1.7 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.

All equipment or any other equipment necessary shall be supplied by the *Contractor* to successfully execute the *Works* safely, to completion. All tools, test equipment, i.e. wind-speed indicators, rain meter etc. shall be supplied by the *Contractor*.

5.1.8 Equipment Provided by the Employer

No equipment will be provided by the *Employer*.

5.1.9 Site Services and Facilities

5.1.9.1 Toilet Facilities

The *Contractor* shall provide and maintain all necessary toilet, changing and washing facilities at his construction site. As waterborne toilet facilities are not available, suitable chemical type toilet facilities shall be provided and maintained.

5.1.9.2 Water supply

The *Contractor* shall make his own arrangements for a water supply and shall bear all costs in connection therewith. The Contractor shall supply his own connections and hoses or other methods of distribution. Under no circumstances will the use of the *Employer's* hoses be permitted. Water will be provided by TNPA for flushing and hydrotesting.

5.1.9.3 Electrical Power Supply

Electrical power will not be supplied by the *Employer*.

The *Contractor* shall make his own arrangements for his construction power supply requirements as necessary and bear all costs in connection therewith.

Only diesel powered generators will be allowed on site.

5.1.9.4 Where any of the above services can be made available by the *Employer,* the cost of meters, connections, reticulation and all other usage costs associated with the provision of services shall be to the *Contractor's* account. The applicable tariffs will be those that the Local Authority charges Transnet and shall be obtained by the *Contractor*.

5.1.9.5 Telephone connection

The *Contractor* shall make their own arrangements with the appropriate authorities for the provision of the necessary telephone services and shall bear all costs connected therewith.

5.1.10 Facilities Provided by the *Employer*

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

The site 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* or his duly appointed representative.

The layout of any construction site, if required, shall be submitted to the *Project Manager* for his approval before the *Contractor* starts erecting his camp

5.1.11 Facilities Provided by the *Contractor*

5.1.11.1 The *Contractor* shall make his own arrangements for the accommodation of all labour and comply with the requirements of the respective authorities.

5.1.11.2 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.

5.1.11.3 Office for the *Contractor / Project Manager*

Office for the *Project Manager* shall comply with the requirements of SABS 1200 AB Subclause 3.2 and shall be provided with air conditioning units of a capacity adequate for the size of the office and the prevailing conditions. The *Contractor* shall allow for the supply of power for air conditioners and shall bear all costs in connection therewith.

The *Contractor* shall provide a telephone as stated in the schedule of quantities for the joint use of the *Project Manager* and *Contractor*.

The unit rates tendered for the provision and maintenance of offices shall be deemed to include air conditioning and telephone.

A meeting room shall be provided and furnished by the *Contractor* for the joint use of the *Project Manager* and the *Contractor*. The conference room shall consist of a room with a floor area of at least 24 m², preferably 6m x 4m.

The meeting room shall be weatherproof, shall have a wooden boarded or concrete floor that is at least 150mm above ground and shall be provided with a ceiling and lining to the walls or equivalent insulation, with acceptable type of door with a secure lock, and two opening windows of glazed area at least 6 m². The conference room shall be well ventilated and shall be so insulated as to provide comfortable working conditions.

The internal finishing of the conference room shall include:

a) Conference table large enough to seat 12 people and having an area of at least 6 m² and with 12 chairs.
b) An acceptable blind on each window.
c) Acceptable lighting.
d) Air-conditioning unit as specified for offices.
e) Softboard notice board of at least 2.5 m² surface area mounted against an inside wall.
f) One "white board" of at least 1.25 m² surface area mounted against an inside wall.

A separate furnished kitchen shall be provided by the *Contractor* for the joint use of the *Project Manager* and the *Contractor*. The kitchen shall consist of a room with floor area of at least 6 m² and a ceiling height of at least 2.5m. The kitchen shall be weatherproof, shall have a wooden boarded or concrete floor that is at least 150mm above ground, and shall be provided with an acceptable type of door with a secure lock and opening window of glazed area at least 1 m². The kitchen shall be ventilated and shall be so insulated as to provide comfortable working conditions.

The internal furnishing of the kitchen shall include:

a) Domestic type wash basin.
b) Refrigerator of at least 150 litre capacity.
c) Table with top surface of at least 0.6 x 1.0 metre.
d) A lockable steel cabinet with three shelves.
e) Acceptable lighting.
f) An acceptable blind on the window.

5.1.11.4 Plant (SABS 1200 AB clause 4)

A new Toshiba BD1560 (or equal approved) photocopying machine capable of copying up to A3 size and reducing from A3 to A4 size shall be provided for the joint use of the *Contractor* and *Project Manager* and placed in one of the offices or in the conference room as directed by the *Project Manager*. This machine shall be maintained, serviced and replaced when necessary. The *Contractor* shall supply all requirements to make one thousand (1 000) photocopies per month.

A new Panasonic KX-FT33 (or equal approved) telefax/ answering machine with a dedicated line shall be provided for the joint use of the *Project Manager / Contractor* and placed in one of the offices or in the conference room as directed by the *Project Manager*. The machine shall have an automatic loading facility and provide a printout slip to record individual outgoing transmissions. This machine shall be maintained, serviced and replaced when necessary. The *Contractor* shall supply all requirements for the receipt of five hundred A4 sheets per month.

A new Hewlett Packard 6730s (or equal approved) Laptop Computer with email facilities shall be provided for the use of the *Project Manager*. This machine shall be maintained, serviced and replaced when necessary.

A new Hewlett Packard Officejet Pro K8600 (or equal approved) colour A3 printer shall be provided for the joint use of the *Project Manager / Contractor*. The *Contractor* shall supply all requirements to make one thousand (1 000) prints per month. This machine shall be maintained, serviced and replaced when necessary.

Payment for outgoing telephone and telefax calls by the *Project Manager* will be reimbursed to the *Contractor*, but the latter shall bear all costs in connection with the provision of these services. A provisional sum is provided in the Preliminary and General section of the schedule of quantities for the payment of outgoing telephone and telefax calls.

5.1.11.5 Survey Equipment

The *Contractor* shall make available the following survey equipment on the site for the joint use of the *Project Manager/Contractor* from the commencement to the completion of the Works:

a) One tachemetric theodolite capable of reading to 20 seconds of arc and one tachy staff.
b) One Engineers level and level staff.
c) One steel tape of 100m, two of 30m length and 4 of 5m length.
d) Two 1m long builder's levels.

The *Contractor* shall service and maintain in good order all survey equipment. He shall insure them and he shall indemnify the Employer and the *Project Manager* against all claims for loss, damage, breakage or theft of the said equipment.

Labour required to assist the *Project Manager* with survey work shall, if required, be provided by the *Contractor* and will be paid for on a daywork basis.

5.1.11.6 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 roads authority and *Project Manager*.

5.1.11.7 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.*

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.

5.1.12 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. No services drawings are to be supplied.

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.

5.1.13 Giving notice of work to be covered up

The *Contractor* shall give 24 hours notice to the *Project Manager* before covering any work.

5.1.14 Restoring of work site

The site must be cleaned and cleared of all facilities and released material within 72 hours after completion of all the work that will form part of the final handing over.

5.2 Completion, Testing, Commissioning and Correction of Defects

5.2.1 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*. The *Employer* 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.

5.2.2 Access Given by the Employer for Correction of Defects

The *Program Manager* arranges for the *Employer* to allow the *Contractor* access to and use of part of the *works* which he has taken over if they are needed for correcting a Defect. In this case the *defect correction period* begins when the necessary access and use have been provided.

6. Plant and Materials Standards and Workmanship

6.1 Structural Steelwork (SABS 1200 H)

6.1.1 Material

Steel shall be mild steel to SABS 1431 – Grade 350 WA.

Holding Down bolts shall be of carbon steel complying with ASTM A307B.

Packer plates shall be 75 mm x 100 mm of varying thickness (minimum 3 mm) and shall be hot dipped galvanised mild steel.

Chemical anchors to be HILTI-HVA-VW M16 galvanised steel anchors, or similar approved.

6.1.2 Alternative Sections

Alternative sections will be accepted (after consultation with the Engineer), to suit available supplies, provided there is no loss of strength or stiffness or, where relevant, appearance.

6.1.3 Drawings and Shop Details (Sub-clause 5.1.2)

The *Contractor* shall provide shop details and shall allow for all costs associated with the provision of drawings as specified in his tendered rates.

Two prints of all shop drawings shall be submitted to the Engineer for approval before fabrication of that part of the work is commenced. The *Project Manager* undertakes to respond to such requests for approval within two working days.

6.1.4 Welding

All welding shall be fully continuous fillet. Minimum weld size is 6mm. All welding to be in accordance with SABS 044 and SABS 455. All welding to be done prior to hot dip galvanising of steelwork.

6.1.5 Erection Bolts

All erection bolts used to be manufactured to SABS 136. Bolt Grade 8.8 to be used.

6.1.6 Payment

Payment shall be as stated in the Schedule of Quantities and shall include for supply, fabrication, corrosion protection, delivery to site, erection including all fixings and grouting of baseplates.

6.1.7 Open Mesh Flooring and Frames

Open mesh flooring shall be banded all round its edges and at any cutouts for pipes etc. Flooring shall be hot dip galvanised to Table 2 of SABS 763 for heavy duty applications.

6.1.8 Bolted Joints

Where main frame joints are bolted, shop detailing of members shall make provision for slip at such joints in order to preserve the intended alignment.

The rate for erection of steelwork shall include for the supply and installation of erection bolts. Erection bolts shall be ISO metric threaded.

6.2 Corrosion Protection of Structural Steelwork (SABS 1200 HC)

6.2.1 Coating System (Sub – clause 5.7)

6.2.1.1 All steelwork, including holding down bolts, nuts and washers shall be hot dip galvanised in accordance with SABS 763 for heavy duty applications. All galvanised sections shall be straight and without any twist when delivered to site.

6.2.1.2 After galvanising the following surface preparation and coating system shall be applied.

6.2.1.3 Surface Preparation:

(a) Unpassivated

Sweep blast clean the total surface to obtain a blast profile of 15 – 25 microns using Micro Blast abrasive from Blastrite, with a particle size of 0,1 – 0,2mm with a nozzle pressure of 3-4 bar. The nozzle angle to the surface must be 30° - 60° and the sweeping distance must be 450 – 650mm. The blasted zinc surface must be free from organic contaminants.

(b) Passivated

Remove manufacturer's passivation by using scotch brite pads to work the galvanised iron cleaner well into the surface. Allow 5 – 10 minutes for the solution to react with the passivating layer.

Remove galvanised iron cleaner by using nylon scrubbing brushes and running water, using hosepipes while scrubbing with the nylon brushes, to obtain a water break-free surface. If the surface is not water break-free repeat the above until water break-free. Allow to dry before painting.

6.2.1.4 Painting will only be required to the top flange of the purlins.

6.2.1.5 Painting

a) Apply one coat Polyamide Cured Epoxy Primer to a DFT of 75 micron by spray. If application is by brush then two coats at a DFT of 40 micron per coat will be necessary.

b) Allow minimum 5 hours and maximum 48 hours overcoating time.

c) Apply 1 coat High Build Acrylic Polyurethane to give a DFT of 50 micron.

d) Application may be by spray, brush or roller.

e) Top coat colour to be black.

f) After erection any abrasions to paintwork shall be repaired in accordance with the manufacturer's instructions. The protruding heads of all nuts and bolts shall be degreased and coated as per (a) and (b) above. The costs of performing all of the above shall be included in the tendered rates.

g) Approved coating suppliers are Ameron, Stoncor (Chemrite), Sigma (Dulux) and Plascon.

h) Any other proposed supplier would be subject to approval by the *Project Manager*.

6.2.2 Handrails

All handrails shall be hop dip galvanised and painted as per Clause PSHC 1 above. Stanchions and the bottom knee rail shall be painted black and the top handrail golden yellow.

6.2.3 Bolts, Nuts and Washers

All bolts, nuts and washers shall be at least hot dip galvanised with the threads sufficiantly undercut prior to galvanising. Washers shall be provided with every nut. All sleeve anchors shall be AISI 316 stainless steel. All fixings having a nominal diameter of 12 mm or less shall be AISI 316 stainless steel. An approved molybdenum disulphide anti seize compound shall be used on all bolts and nuts.

6.3 Medium pressure pipelines (SABS 1200L)

The requirements of section 6.4 of this document are also applicable for this section.

6.3.1 Supporting Specification

All work involving steel pipelines and fittings shall be carried out in accordance with SABS 1200 L, ASME B31.3 (latest edition) or ASME B31.4 (latest edition) for product piping only, and this Project Specification. (See Clause 2.5 of the Special Conditions of Contract).

6.3.2 Pipelines

6.3.2.1 Notwithstanding the provisions of sub-clause 5.2.3 of SABS 1200 L jointing of pipes and specials of all diameters shall be by field welding, except where pipes are fitted to flanged valves and elsewhere as shown on the drawings or instructed by the *Project Manager*.

6.3.2.2 The Rated Pressures of this system are as follows:

Product piping: = 1900 kPa
Fire Fighting piping: = 1600 kPa

All pipes, flanges and fittings shall be suitable for these duties.

6.3.2.3 Medium & Seals

The medium to be transported in the pipeline is as follows:

- Product piping: Hydrocarbons / Fuel products
- Fire Fighting Water: Sea Water
- Fire Fighting Foam: Foam Concentrate
- Fire Fighting Foam Pre-mix: Sea Water with 3% Foam Concentrate in solution

The seals provided shall all be suitable for the medium of product. All hydrocarbon seals shall be Nitrile or Viton. All threaded connections shall be sealed with Stag Jointing Compound.

6.3.2.4 Flanges

Flanges shall be ANSI B16.5 150lb raised face and constructed of ASTM A105 material unless otherwise stated on the drawings and shall be of the weld neck type to the correct pressure rating as specified in the Schedule of Quantities or as shown on the drawings. Plug flanges, if required, shall be as shown on the drawings.

All flanges shall be installed with bolt holes drilled off centre and symmetrically offset from the vertical centre line of the flange. Flanges shall be installed square to the axis of the pipeline.

Any item of pipework that is found to have the flanges incorrectly drilled will be rejected. Reaming of bolt holes to oversize dimensions in order to make a particular piece fit will not be permitted.

6.3.2.5 Wall Thickness of pipes and specials shall be as follows:

Product
The pipes and fittings shall be standard schedule unless otherwise stated on the drawings or bill of quantities.

Fire Fighting
The pipes and fittings shall be schedule 10s unless otherwise stated on the drawings or bill of quantities.

6.3.2.6 Manufacture of Steel Pipes and Specials

Product Piping
Pipe shall have bevelled ends in accordance with ANSI B16.25 by the *Contractor*. The rate for treatment of pipe ends shall be included in the rate for welding of pipes.

Piping shall be delivered in a clean state, together with all relevant test and quality control documentation as required by the specification.

Used steel pipe and unidentified new steel pipe shall not be used. Removal of a portion of an existing steel line and reuse of the pipe shall not be permitted.

All pipe shall be cleaned inside and outside. All pipe shall be visually inspected to determine that it is reasonably round and straight and to discover any defects that might impair its strength or tightness.

Carbon Steel
The piping shall comply with ASTM A106 Gr. B, according to availability as per Clause 6.3.2.4 above. Specials, e.g. bends, tees, reducers and welding caps shall be carbon steel to ASTM A234 WPB. All piping and specials shall be seamless. Where applicable all piping is to be Denso wrapped as per manufacturer's specification or as specified in this specification.

Stainless Steel
All piping is to be 316 L stainless steel pipe to ASTM A312 seamless. Weld filler material is to be 316 L or 904 L. Where applicable all piping is to be Denso wrapped as per manufacturer's specification or as specified in this specification.

All stainless steel pipes are to be kept free of contamination by carbon steel, grinding etc.

Pipe ends are to be kept closed at all times. Should ends be left open and dust, sand, grinding, welding rods etc. are found in the pipes the *Project Manager* will instruct the *Contractor*, at the cost of the *Contractor* to broom/pig all pipes before installation, and before pressure testing.

All areas of grinding are to be cleaned with stainless steel wire brushes and pickled and passivated to prevent contamination of the stainless steel.

Where practical, full lengths of pipe are to be used with partial lengths limited to shorter tie-in spools.

Corrosion protection, welding etc are measured elsewhere unless specifically included in the schedule of quantities.

All pipes shall be colour coded as directed at direction changes or as required for ease of identification.

All pipe certificates are to be included in the data pack and are to be referenced to the pipes as installed.

Galvanic Corrosion Protection
Where dissimilar metals are being used (between the pipe, pipe brackets and pipe supports) suitable isolation means, either plastic strips, isolation kits or top hat washers shall be used to prevent galvanic corrosion.

Cathodic Protection
Electrical bosses may be required to be welded onto the pipe for cathodic protection as indicated on the drawings. Piping inside valve chambers is to be regarded as exposed piping. Cathodic protection is to be done by others.

Fittings & Specials
All steel and stainless steel pipe fittings shall be forged and not fabricated.

Changes in direction shall only be made by the use of bends or elbows. Mitres shall not be allowed.

All forged bends, tees and reducers shall conform to ANSI B 16.9. Butt welded standard caps shall conform to ASME VIII.

Elbow schedule is to match that of the pipe. Where required the elbow/pipe ID is to be ground/filed to ensure a smooth ID across the weld.

6.3.2.7 Measurement and Payment

Notwithstanding the various payment items of Clause 8.2 of SABS 1200 L, payment for fittings and straight pipes of non-standard lengths will not be measured as extra over.

The rates tendered for bolt-ups shall include for all nuts, bolts, washers and gaskets and all things necessary.

The rates tendered for pressure testing, draining and degassing shall be measured through the fittings and equipment.

Payment shall be for actual lengths installed.

6.3.2.8 Drawings

The *Contractor* shall be provided with a set of construction drawings which may or may not include isometrics. Should the *Contractor* deem it necessary for isometric drawings or further fabrication/workshop drawings to be generated, it shall be for the *Contractors* account.

The timing of the issuing of drawing is at the discretion of the *Project Manager* based on the stage of the project, necessary milestones and the programme. It cannot be assumed that all drawings will be issued at the start of the project.

Piping 40NB and smaller will be site run. Drawings provided for these pipelines shall be used a routing guide rather than for dimensionally accuracy.

Only drawings marked "ISSUED FOR CONSTRUCTION" and signed by the *Project Manager* may be used. While every effort has been made to ensure the accuracy of the drawings, and provision has been made for site shop/field welds, the *Contractor* is to confirm all dimensions prior to fabrication. Confirmation of the drawings must be done on site and, provided it does not hinder operations or safety, be marked out physically.

On completion of the contract the *Contractor* is to supply the *Project Manager* with a set of dimensioned "as built" drawings. Hand alterations on the latest revision will be acceptable.

All dimensions and directions must be checked and marked as correct or a new dimension/direction inserted.

Before any trenching or pipe supports are done for the laying of any piping the final route for such piping shall first be confirmed with the *Project Manager*.

6.3.3 Protection of Pipes and Specials

The requirements of section 6.4 of this document are also applicable for this section.

Non-destructive testing of the pipelines shall be performed prior to the painting or coating of the pipelines. A primer coat may be applied to protect the pipeline if the non-destructive testing cannot be performed in good time.

6.3.3.1 Surface Preparation

Blast Cleaning
Prior to abrasive blasting, all equipment which can be damaged by blasting, dust, grit or shot, shall be protected by wrapping, taping, or other means, to prevent damage. This equipment shall include, but not be limited to, rotating shafts, bearings, valves, machined moving parts and motors.

No final blasting shall be carried out in wet weather before painting commences.

Air used for blasting shall be dry and free of oil and other contaminants. All air pressure supply lines for blasting shall have moisture and oil trap filters.

After blast cleaning the surfaces shall be blown clean of all blasting material and dust with dry air, or by means of an industrial vacuum cleaner.

Abrasives for blast cleaning shall be clean and dry and shall be selected to provide the required surface profile for the subsequent priming materials.

The standard of blasting shall be in accordance with SIS 0559 00.

Wire Brushing
Weld spatter and slag shall be removed by grinding or chipping prior to wire brushing.

Surfaces to be wire brushed shall be degreased or solvently washed prior to wire brushing.

The wire brushed surface finish shall be in accordance with this Specification.

Wire brushed surfaces shall be blown clean using dry, oil free air.

Wire brushed surfaces shall be primed the same day and shall not be left uncoated overnight.

Paint Application
Paint shall not be applied on any surface containing grease, oil, loose rust, mill scale, corrosion products or any other deleterious material. No paint shall be applied to wet, moist, or sweating surfaces, or un-cleaned paint, previously applied.

No paint coating shall be over coated until the time as specified by the paint manufacturer has elapsed.

Coatings shall not be applied when the surrounding air temperature is below 7°C. When the surrounding air temperature is below 7°C the surfaces to be painted shall be preheated to eliminate wetness and sweating, and shall be kept completely dry prior and during paint application.

After paint application, the surface shall be protected from rain, dust or other unfavourable conditions until the paint is dry. The Employer will review damage caused by any of the above conditions and make recommendations to the Contractor for corrective actions at the Contractor's cost.

All containers shall remain closed until required for use. Mixing of paints shall be done by means of a mechanical mixer. Paint shall be agitated during application to keep pigments in suspension.

Paint shall be applied by spray, unless otherwise instructed by the paint manufacturer.

The dry film thickness of coats specified in this Specification is minimum. If the total dry film thickness or hiding is not achieved, additional coats shall be applied at no extra cost to The Employer.

All coats shall be applied in such a manner as to produce a film of uniform thickness. Attention shall be paid to crevices, weld lines, corners, edges and similar surfaces to obtain the specified thickness.

Protective coatings as detailed in this Specification shall be applied by qualified workmen only. The criteria governing good workmanship shall be surface preparation, neat appearance, free of blisters, bubbles, craters, sags, runs, lap marks and unnecessary over spray or brush marks. Other criteria are thorough mixing, straining, uniformity of film thickness, removal of dust, grease and other foreign matter, drying time between coats and protection of surfaces not to be painted.

The manufacturer's recommendations and instructions for thinning, mixing, handling and applying his products shall be considered part of this Specification. In the event of conflict between the specifications and the manufacturer's recommendations, The *Employer* shall determine which procedure is to be followed.

Areas where the paint coating has been damaged during transportation, erection and similar operations shall be cleaned by means of wire brush or emery paper. The surrounding paint, which is still intact, shall be roughened for a distance of 20 mm beyond the damaged area prior to spot priming. Painting shall consist of all the coats previously applied and shall overlap the damaged area at least 20 mm.

Paint shall be applied within a maximum of four hours after blast cleaning or wire brushing.

Only inorganic zinc rich paint shall be applied by agitated pressure pot spray. For small areas painting by brush shall be done.

The primer, the intermediate and finishing coats shall be supplied by the same manufacturer unless otherwise approved by The Employer.

Thinners to be used shall be of the same manufacture as that of the paint and as specified by the manufacturer.

Areas which will be inaccessible after erection, such as back to back angles, shall receive the full specified coating prior to assembly.

Equipment or structural steel members being either primed at the workshops and delivered to site for storage, or primed on site prior to erection, shall be laid on trestles or timber sleepers which are at least 200 mm above ground level.

Workmen shall be responsible for the cleanliness of the jobsite and shall ensure that all waste material attributable to their trades are regularly removed.

Precautions as required by the *Employer* shall be taken to avoid fire hazards of stored on site materials. Oily or solvent soaked rags shall be kept in closed containers and in minimum quantity.

Air used for abrasive blast cleaning or for spraying shall be free from all traces of oil, water and other contaminants.

Paint containers shall be clearly labelled. The label shall show the name and type of paint, batch number, colour and any instructions for mixing and/or reducing the volume.

Colour coding and marking shall be in accordance with Section 11 of this Specification.

No primer or finish paint shall be applied on or near piping circumferential welds prior to post weld heat treatment (PWHT) or hydro test. The primer shall be held back 50 mm from either side of the weld if PWHT is required.

Shop Painting

The *Contractor* shall furnish the materials specified and ensure that they are applied in strict accordance with this Specification.

The *Contractor* shall be wholly responsible for surface preparation and primer application. The primed surface shall meet the minimum dry film thickness required by this Specification.

Surface preparation and priming on vessels, equipment and structural steel shall be performed by the *Contractor* in the shop unless otherwise agreed by The *Employer*.

All equipment requiring cold insulation operating at 15°C and lower and all un-insulated equipment shall be cleaned and primed in accordance with the schedule in this Specification.

When the piping *Contractor* is responsible for finish painting piping spools (mark pieces) or straight-run piping may be painted in accordance with this Specification, after completion of erection and all specified tests.

Shop finish painted mark pieces shall be "line tagged" for identification. The line tag shall consist of a galvanised metal tag, marked with the line number, mark piece number and NDE release number. Tags shall be secured to the pipe with a 15 mm wide stainless steel band.

Pipe shoes, saddles and anchors that are shop fabricated shall be primed before delivery to the jobsite. A 25 mm wide band shall be masked and left un-primed along the edges for subsequent welding to the pipe.

After attachment in the field, the shoes, saddles and anchors shall be finish painted in accordance with this Specification.

Jobsite Painting

Shop primed surfaces shall be inspected and examined for bare or marred spots. All such areas shall be thoroughly cleaned and touched up with the specified primer. The finish coating shall then be applied.

Field fabricated items shall be cleaned, primed, and finished as specified by this Specification. Cleaning, priming, and finishing over manufacturer's standard shall also be as specified in this specification for new equipment.

All un-insulated piping which is located outside unit battery limits (offsite), shall be painted white per the schedule. This excludes special product piping such as firewater, pitch, tar and nitrogen.

The painting of spring support housings shall be done after field installation. Attention shall be given to the following:

Galvanised surfaces shall be inspected and examined for bare or marred spots. All field welds and all abrasions caused by handling, shipping, storing, or erection, shall be thoroughly cleaned and shall be touched up with a cold galvanising compound or organic zinc rich epoxy as specified in this Specification.

6.3.3.2 Internal Protection of Piping

Should internal lining of the pipes be specified, the following shall apply:

Piping carrying sea water

The piping shall be internally coated by an approved glass fibre reinforced coating system by a reputable manufacturer. Approval of the coating system is at the discretion of the *Project Manager*. The coating system shall be designed for abrasive, unfiltered sea water travelling at a flow velocity not less than 10m/s. The coating system shall be designed for a useful life of 30 years. In all cases, the internal coating shall not be less than 1mm thick.

The coating shall be applied by a *Contractor* approved by the coating manufacturer. The coating system shall be applied in strict accordance with the manufacturer's instructions. The coating shall be applied at the Contractor's workshop under controlled conditions. Particular emphasis is to be applied to shot-blasting of the pipe prior to the initial coat.

All welds shall be smooth with no crevices. All sharp edges shall be rounded to aid the coating process.

Testing of the coating shall be done in accordance with the manufacturer's specifications. The test results shall be submitted to the Engineer and the coating manufacturer for acceptance.

Pipes without fit field welds may be fabricated off-site and internally coated prior to being brought to site.

All pipes with fit field welds shall be brought to site as black pipe, fitted and completely welded insitu. The pipes shall then be removed from site, transported to the coating workshop and internally coated at the workshop.

Care shall be taken during the handling and installation of the pipes to prevent damage to the internal coating.

Should the internal coating be damaged, patching shall only be allowed in accordance with the manufacturer's specifications and with the approval of the *Project Manager*. Should the patch procedure not be accepted by the Engineer the pipe shall be returned to the Contractor's workshop, shot blasted and re-coated at the *Contractor's* expense. Under no circumstances shall patches greater than 100cm² be allowed to be done on site.

The *Contractor* shall allow for rebating of the flanges should the coating manufacturer require it. The requirement to rebate the flanges shall be brought to the attention of the *Project Manager* for approval before the rebating is done. During application of the coating, flange faces shall be protected such:

a) the "gramophone" finish is not damaged, and
b) all areas that will be exposed to the fluid are coated to the correct thickness.

Examples of acceptable coating systems are:
Corrocoat Polyglass
Jotun Marathon XHB

6.3.3.3 External Protection of New Above Ground Piping

Pipes, specials, flanges and bolts and nuts in normal use shall be protected by preparing and painting as per the following:

a) The pipe surface shall be prepared by abrasive blasting to SA 2½ with a blast profile of between 30 and 50 microns. The abrasive blast materials shall conform with SABS 064 paragraph 2.3.3.3.

b) One coat of Zinc Phosphate Primer to a dft of 40 to 75 microns.

c) Two coats of non-bituminous Silvershine Aluminium to a DFT of 40 microns per coat.

The paint shall be applied strictly in accordance with the manufacturer's specifications.

Alternatively, all new piping shall be wrapped with Denso Petrolatum tape or similar approved in accordance with manufacturer's specification and the approval of the *Project Manager*. Petrolatum Tape shall be suitably protected against exposure to the elements in accordance with manufacturer's specifications.

Pipes, specials, flanges and bolts and nuts in extremely harsh conditions (such as marine environments) shall be coated with a coating system specifically designed for such conditions. The coating system shall be supplied by a reputable manufacturer such as Jotun, Corrocoat, Akzo Nobel, Stoncor and Sigma Coatings. The coating system shall be designed to have a useful life of 15 years. The coating system shall be subject to the approval of the *Project Manager*. The coating shall be applied by a *Contractor* approved by the coating manufacturer. The coating shall be applied and tested in strict accordance to the manufacturer's specifications. The test results shall be subject to acceptance of the *Project Manager* and the coating manufacturer.

Alternative painting (including preparation) shall be as per the manufacturer's specification and subject to approval of the *Project Manager*.

Repairs and patches to all painting and coating systems shall be done in accordance with the manufacturer's specifications and subject to the manufacturer's testing procedure.

6.3.3.4 External Protection of Existing Above Ground Piping

Certain sections of existing pipework are to be modified and re-used in the permanent works. Depending on the existing paint condition the pipes may need to be completely or partially protected as per Clause 6.3.3.2 or patch repaired. The pipe shall be removed off site where blasting and protection according to the full requirements of Clause 6.3.3.2 is needed. Items of pipe work and equipment to be patch repaired shall be wire brushed on site before receiving the paint coats as described in Clause 6.3.3.2.

6.3.3.5 Galvanising of Pipe & Steel Surfaces

Where called for by the drawings or specifications, the mild steel pipes are to be galvanised as per SANS 32, including all necessary preparation of the piping.

Painting onto galvanised pipes shall be as follows:

Preparation	– Clean emulsifying agent / rinse with clean water
	– Chemical etch / rinse with mordant solution
Priming	- ZN Phospate 2 pack epoxy (1 x 60µDFT)
Finish	- Acrylic modified 2 pack polyurethane (1 x 50µDFT)

Alternatively, painting shall be as per the manufacturer's specifications (including preparation) and subject to the *Project Manager's* approval.

6.3.3.6 Pipe Identification

The painting to equipment and pipes shall be included in the tendered rates. The colour of the pipes and identification bands shall be as per TNPA's specification. Fire fighting water pipes and equipment is to be painted Fire Fighting Red. Fire fighting foam pipes and equipment is to be painted white.

The name of the product shall be painted on the pipeline every 12m in black paint in letters no smaller than 50mm high and 30mm wide.

6.3.4 Bolts and Nuts

Product Piping: Bolting shall conform to ANSI B16.5.

Bolts and nuts for flange connections shall be of the stud bolt type.

Bolts to ASTM A193-B7 and nuts to ASTM 194-2H, in sizes appropriate to the class of valve or pipe when full face gaskets are used. The length of each bolt or stud shall be such that, after the bolt has been tightened, the end of the bolt or stud projects above the nut by not more than two full threads.

When using a ring gasket, the bolting shall be of carbon steel, equivalent to ASTM A 307 Grade B, without heat treatment other than stress relief. ASTM A 307 nuts may only be used with ASTM A 307 bolts. The length of each bolt or stud shall be such that, after the bolt has been tightened, the end of the bolt or stud projects above the nut by not more than two full threads.

All nuts are to have a 2mm washer of compatible material.

All sleeve anchors shall be ANSI 316 stainless steel. All fixings having a nominal diameter of 10mm or less shall be ANSI 316 stainless steel and this also applies to proprietary bought out items.

An approved molybdenum disulphide anti seize compound shall be used on all bolts and nuts. The cost for this shall be included by the *Contractor* in his rate for bolting.

The rates tendered for bolt-ups shall include for all nuts, bolts and gaskets required.

All underground flanged connections shall be protected using a petrolatum mastic formed to an even profile followed by a layer of petrolatum tape covered with a PVC outer wrap. The choice of materials and procedure is to be approved by the *Project Manager* prior to installation.

Should galvanised nuts, bolts and washers be specified by the drawings, they shall be class 10.9 as per ISO898. Galvanising should meet the requirements of SANS 120 (ISO 1461).

Should stainless steel nuts, bolts and washers be specified by the drawings, they shall be ASTM A194 B8 Class 2 bolts and ASTM A194 Grade 8 nuts and washers.

6.3.5 Bolt-Ups

For the purpose of this specification, a bolt set is deemed to consist of all the bolts, washers and nuts required for a flange.

A tag shall be placed on all flange sets where the bolts have been tightened and correctly torqued. The tag shall include the name of the fitter who tightened the bolts, the date and time when the bolts were tightened and the signature of the fitter.

The pipeline may not be filled until all the flange sets have tags installed. Once the pipeline has been pressure tested the tags will be removed by the *Contractor* and the bolts coated as required by the specification.

Bolt sets in harsh environments (such as corrosive or marine environments) shall be protected by means of an approved Denso wrapping technique. The wrapping technique shall be subject to the approval of the *Project Manager*.

6.3.6 Gaskets

Unless otherwise stated on the drawings, gaskets shall be of non-asbestos fibre complying with the requirements of BS 7531. Only approved brands, including Permanite style 229, Klinger Topgraph 2000 and Klinger Oilit may be used.

Unless otherwise stated on the drawings, all gasket material shall be 1.5mm thick flat ring to BS 3063 or ANSIB16.21 and cut so that the annular section is completely within the bolt circle i.e. ring gaskets with no bolt holes, unless otherwise specified on the drawings.

All gaskets shall be purpose made. Hand cutting and trimming of gaskets on site will not be acceptable.

Care shall be taken to ensure that all gaskets are packed properly and are not damaged by bending. For larger sizes the gasket shall be suitably supported by wooden frames during transit and while in store.

6.3.7 Welding Procedures

General
Welding procedures and welders performing work under this specification shall be qualified under the ASME Boiler and Pressure Vessel (BPV) Code, Section IX, or API 1104. The choice of either of these standards resides with the *Project Manager*.

Field Welding should be done in alignment with ASME B31.3 and ASME Boiler and Pressure Vessel (BPV) Code, Section IX. The choice of either of these standards resides with the *Project Manager*.

Welder re-qualification tests shall be required if there is some specific reason to question a welder's ability or if the welder is not engaged in a given process of welding for 6 months or more. All welders shall be re-qualified at least once each year.

Any re-qualification of a welder called for by the *Project Manager* shall be for the *Contractor's* account.

Records of the tests that establish the qualification of a welding procedure shall be maintained as long at that procedure is in use. The operating company or *Contractor* shall, during the construction involved, maintain a record of all welder's qualified, showing the dates and results of tests.

Carbon steels shall be preheated and stress relieved as per the requirements of clauses 824 and 825 of ASME B31.8.

Stainless steel welding shall not be done on wet pipes or in windy conditions unless suitable wind breaks are erected to maintain the integrity of the weld shield gases. A clean and uncontaminated weld area – free of carbon (mild) steel, paint, oil, grease, crayons etc – must be maintained.

Tack weld materials shall be of the same type as the filler material. Electrodes shall comply with SABS 455.

Prior to the commencement of field welding, welding procedures shall be established and approved by the Engineer and thereafter such welding procedure shall be adhered to during subsequent construction and shall not be altered unless specifically authorised by the *Project Manager*.

The *Contractor* shall provide a detailed description of all aspects of the welding technique to be employed both in jointing pipes in assemblies above trench level and in executing in-situ welds whether above or below ground level. The information required shall include a drawing of the prepared end for butt welding of flanges and pipes.

Records shall be kept by the *Contractor* to enable each weld to be subsequently identified with the welder concerned.

General Welding Requirements
Avoid positional welding. Avoid arc strikes on the fabrication. Use a striker pas or scrap stainless steel. Use run-on and run-off tabs. Any temporary attachment shall be of equivalent grade stainless steel and tacked in position with an electrode of equivalent grade. Such attachment shall be carefully ground off.

Maintain a short arc and adequate gas shielding. Take special care when welding in the open, or under draughty conditions. Use stainless steel wire brushes to remove slag or scale. All grinding discs and abrasives shall be iron free and used only on stainless steel.

Restore passivity/corrosion resistance of the welding area. Remove scale either mechanically or chemically – mechanically by use of dedicated abrasives/discs and chemically by pickling with nitric/hydrofluoric acid formulations. Do not use formulations of hydrochloric acid. Wash thoroughly after pickling

Passivate with nitric acid formulation if;
- weld is mechanically descaled
- application is critical or marginal
- general surface contamination of the fabrication by carbon (mild) steel has occurred.

Wash thoroughly after passivation.

Post weld heat treatment is generally not required, nor recommended.

Only TIG (tungsten inert gas) or MIG (metal inert gas) welds will be acceptable unless otherwise agreed in writing by the Engineer. Only pure Argon or gas mixtures of argon and helium or argon and hydrogen shall be used for TIG welding.

For MIG welding only argon + 1-2% oxygen shall be used. For non-critical corrosion resisting applications 2% carbon dioxide may be used instead of oxygen. The addition of helium may be used for automatic welding and/or welding of thick material.

The minimum distance between longitudinal/spiral welds on two adjoining pipes is to be 50mm as measured along the circumference. All pipes to be welded are to be gas freed before welding. The maximum allowable bend angle across the welds is to be ½°. Welds are to be to ANSI B31.1

All weld slag is to be removed before the pressure test.

Butt Welds
Acceptable end preparations shall be as shown in Appendix I, Fig I4 of ASME B31.8

Fillet Welds
Minimum dimensions for fillet welds used in the attachment of slip-on flanges and for socket welded joint shall be as per ASME B31.8, Appendix I, Fig I6. Similar minimum dimensions for fillet welds used in branch connections are shown in ASME B31.8, Appendix I, Figs. I1 and I2.

Welding and Inspection Tests
The quality of welding shall be checked visually on a sampling basis, and defective welds shall be repaired or removed from the line at the *Contractor's* expense.

All welds are to be clearly numbered on the drawings and the name of the welder is to be recorded for each weld.

The quality of welding shall be checked by non-destructive inspection. Non-destructive inspection may consist of radiographic examination or magnetic particle testing. The trepanning method of non-destructive testing is prohibited.

The following minimum number of butt welds shall be selected on a random basis by the *Contractor* from each day's construction for examination. Each weld so selected shall be examined over its entire circumference.

10% of welds in Location Class 1
15% of welds in Location Class 2
40% of welds in Location Class 3
75% of welds in Location Class 4
100% of welds at major road crossings

All welds that are inspected must meet the standards of acceptability of API 1104 or be appropriately repaired and re-inspected. The results of the inspection shall be sued to control the quality of welding.

All radiographic examination shall meet the requirements of API 1104.

Defective welds shall be removed or repaired. If a repair is made, it shall be in accordance with API 1104. Welders performing repairs shall be qualified as set out in this specification. The cost for any removal or repair of a rejected weld shall be for the expense of the *Contractor*.

6.3.8 Procedure Qualifications tests

Before the *Contractor* commences routine field welding the procedures tests laid down in ASME Section IX shall be carried out.

The minimum number of root bead welds, the minimum number of second bead welds, and the type of clamp used (internal or external) shall be given in the description of the welding technique.

The *Contractor* shall maintain a record of all welders employed on the works giving particulars of each individual welder's qualification tests carried out in terms of API 1104 or ASME IX, the cost of which shall be borne by the *Contractor*. Nevertheless the coding of welders for this project shall be carried out by a recognised independent inspection authority approved by the *Project Manager* and the cost of such coding shall be for the account of the *Contractor*.

Before a welder is employed on tack or root welds, he shall carry out a test and root weld on a pipe of the same materials and under conditions as close as possible to those experienced on the actual pipeline.

If icicles are present in the bore of the pipes or the weld metal projects more than 5mm the welder shall not be permitted to undertake tack or root welding. The completed test weld pieces shall be visually examined and then radio-graphed. Should the weld appear sound it shall be subjected to approved root and face bend tests. Test pieces shall be retained by the *Contractor* and marked so that they can be identified with the welder carrying out the test.

6.3.9 Weather

Field welding shall not be performed when the surfaces to be welded are wet or during periods of high wind unless the operator and the work are properly protected and sheltered in an approved manner.

6.3.10 Preparation of Joint

Where scarf cutting of the pipe is required in the field the pipe ends shall be prepared by machining or machine flame cutting. Hand flame cutting shall not be permitted.

When jointing pieces by butt welding the number of tack welds applied shall be kept to a minimum to be effective in holding the pipe end securely and to maintain the required root gap prior to welding, but shall be not less than four.

The same procedure for hot cutting is applicable for welding, but where a joint is to be made with new to existing pipe, it is preferable for safety reasons to flange the joint. In the case where the flange is jointed to the existing pipe, a rubber expandable plug is inserted into the line far enough from the heat affected zone. A gas test is then done before a hot work permit is issued. In the case of the pipe being in a vertical plane, light water may be placed over the plug.

6.3.11 Cutting and Welding Work

Before any work is to be done to product pipelines they are to be disconnected from any tankage or other possible product source. Before disconnecting or cutting any pipelines, adequate electrical continuity is to be maintained to prevent sparking due to stray currents in the pipelines. A 50sq.mm (minimum) copper cable should be used for this purpose and be suitably clamped.

6.3.11.1 Cutting and Welding of Existing Pipelines

Cold Cutting (pipe cutter or hand sawing)

The line must be drained of all product after isolation from the tank and then flushed with water. As the cutting process is cold, a gas test is not required, but it is to be assumed that there will be flammable vapours present.

Hot Cutting (Oxy Acetylene torch or grinding)

The line must be drained of all product after isolation from the tank and then flushed with water.

After flushing, a 10mm diameter hole is to be drilled in the pipe adjacent to the proposed cut, with another some distance away in a low point on the line. These holes are to be used by the authorised Gas Tester, to sample the air/gas in the line.

If the line is gas-free, a hot work permit may be issued. If gas is found to be present in the pipe and cannot be cleared by repeated flushing, the *Project Manager* may authorise the work to proceed under the following conditions:

An adequate supply of inert gas must be on hand.

A third hole is to be drilled on the other side of the proposed cut.

A quantity of inert gas is introduced into the pipe via one of the holes.

A further gas test is done after introducing the inert gas.

If a reading is not registered on the explosiometer, cutting may proceed whilst bleeding nitrogen into both holes adjacent to the cut.

If there are traces of product on the ground or concrete paving, these are to be mopped up with dry sand, prior to doing a gas test.

On ground that shows signs of heavy pollution, that cannot be flushed away, light water may be used to minimise the hazard.

Critical Tie-Ins Using the "Clay Plug" Method

Where the downtime on a particular pipeline is critical or where it is impractical to gas free a pipeline, the Engineer may order the "clay plug" method or Vetter bags to be used to perform the tie-in. The existing lines for the particular product will be drained (not gas freed) by the *Contractor* under the supervision of the Engineer. The *Contractor* shall then cold cut the existing lines on either side of the tie-in points and install slip on flanges (unless bolting to an existing flange) on the existing pipe upstream and downstream of the tie-in point using the "clay plug" method. The open ends of the cut existing lines shall be "clay plugged" thus eliminating the need for gas freeing during the tie-in period. Partially prefabricated tie-in spool pieces shall then be installed, tack welded, removed, fully welded, pressure tested and reinstalled after removal of the "clay plugs".

The *Contractor* shall allow in his tendered rates for the provision of sufficient cold cutting equipment and "clay plugs" to work simultaneously on all tie-in points for the line and for all extra costs involved in performing the above operations.

The use of plumbers plugs as "clay plugs" will be permitted provided that the seal between the plug and the pipe wall is air tight.

All plugs are to be vented to prevent pressure build up behind the plug. Vents are to end a minimum of 10m past all hot work and the vent pipe is to be of a non flammable material in the vicinity of the welding.

A gas test will be required after installation of the plug before any welding commences.

Cleanliness during pipe fabrication

Every effort must be made by the Contractor to ensure internal cleanliness of product lines during fabrication.

Plastic, rubber or wood caps are to be utilised to seal the pipes to ensure cleanliness during all transport, storage and handling operations, up to placing the pipe prior to welding.

6.3.12 Inspection

Facilities shall be provided to the *Project Manager* so that he may be able to inspect, during the process of welding, any layer of weld metal. He may require any defective welds either to be cut out and re-welded or repaired at his discretion.

The *Contractor* shall clean thoroughly all welds prior to inspection. The *Project Manager* may require a number of completed joints, selected at random, to be cut for mechanical tests or to be selected for visual inspection, micro examination or examination by other means. When the *Project Manager* orders the *Contractor* in writing to cut out and test joints the *Contractor* shall be paid for such work at day work rates.

If as a result of inspection and testing, the work of any welder is found to be unsatisfactory, the welder will not be permitted to continue welding under this *Contract*.

6.3.13 Radiographic Examination

The *Contractor* will engage the services of an approved radiographer for examination of butt welds in the pipeline. X-rays should meet the requirements of ANSI B31.3 and the Authorised Inspection Authority (AIA). The cost of this testing shall be included in the rates tendered for piping. For every weld that fails the radiographic test, the *Contractor* shall be debited with the cost of re-testing the repaired work. Any radiographic testing which the Contractor may consider necessary in addition to that specified shall be at his own expense. All faults revealed by the tests shall be repaired to the approval of the *Project Manager*.

All x-ray certificates and x-rays (including x-ray viewer) are to be made available for inspection at the request of the Engineer or AIA. All x-ray reports are to be included in the data pack. All x-rayed welds are to be stamped with the welder identification and the number of the weld. All welds are to be referenced to the welder and clearly marked on the drawings to be included in the data pack.

6.3.14 Other Non Destructive Tests

The *Employer* may engage the services of an approved non destructive testing agency for examination of approximately 100% of all fillet welds in the pipeline by means of dye penetrant, magnetic particle inspection or other suitable tests. The costs involved with this testing shall be allowed for in the schedule of quantities for testing.

6.3.15 Standards of Acceptability

The workmanship shall be of the highest quality throughout. All materials and workmanship which may, in the opinion of the *Project Manager*, be inferior to that specified for the work will be condemned. All condemned material and workmanship must be replaced or rectified, as the case may be, at no cost to the *EMPLOYER*, to the satisfaction of the *Project Manager*.

The completed welds shall comply with the requirements of ASME IX. Work on which unauthorised repairs have been carried out may be rejected.

6.3.16 Repairs to Minor Faults

Faulty welds shall be rectified in accordance with ASME IX.

All costs relative to the repair of faulty welds and joints shall be borne by the *Contractor*.

6.3.17 Tolerances

Tolerances for the line and level of pipelines shall be as follows:-

Positions of bends	:	within 150mm of the location shown on the drawings or as agreed with the *Project Manager*,
Level of pipe invert	:	within 25mm of the level shown on the drawings,
Location of pipe centre in plan	:	within 25mm of the location shown on the drawings through the sleeves and culverts and elsewhere within 75mm of position shown on the drawings or as agreed by the *Project Manager*.

Line of the Pipe : The line of a straight pipe shall not vary by more than 15mm from the line of a 12m vertical or horizontal line.

6.3.18 Hydraulic Testing of Pipelines

6.3.18.1 General

All the pipelines shall be tested as directed by the Engineer. Blank flanges with necessary air, water and pressure gauge connections shall be provided by the *Contractor* for this purpose. Before testing any pipeline all construction work on the pipeline shall be complete unless otherwise specifically directed by the *Project Manager*.

All joints, including welds, are to be left un-wrapped and exposed for examination during the tests. Vents, drains and relief valves shall be utilised to prevent damage to the piping system due to expansion of the test fluid during the test period.

The maximum operating pressure of each piece of equipment, including bellows, shall be checked against the test pressure of the piping system in which the piece of equipment is incorporated. If the test pressure of the piping system is greater than the maximum operating pressure of the equipment, the equipment shall be blanked off and tested separately.

Water may be used for hydrostatic testing of process lines provided special precautions are taken for draining the lines.

All piping, vessels, exchangers, etc. shall be completely drained of all fluid after testing. Special precautions should be taken to ensure that all pockets where fluid may be trapped are properly drained.

All piping tested with water, in which water would be detrimental to the process operation, shall be thoroughly dried. The *Project Manager* shall determine when the piping is dry.

The *Contractor* shall supply all necessary water or other fluid if so specified, labour and equipment for conducting the tests as described herein. All tests shall be carried out in the presence of the Engineer at such times and in such manner as he may direct.

6.3.18.2 Static Test

The pipeline shall be filled with water, all scours on the section being opened fully for one minute or until the water emerges clean. If after 48 hours the *Project Manager* is satisfied that there are no major leaks, the pressure test shall be carried out.

6.3.18.3 Pressure Test

A suitable pump shall be connected to the pipeline at a mutually agreed point.

The pressure in the pipeline under test shall be raised slowly by means of the pump and measured by a pressure gauge connected to the pipeline. The full test pressure shall be maintained for at least 60 minutes, or longer if so required by the *Project Manager*.

The test pressure shall be 1.5 times the rated pressure. The test pressure and duration shall be stated on the drawings.

The pipeline may be tested against a closed valve.

The *Contractor* shall be paid under the appropriate item in the Schedule of Quantities for hydraulic tests. Re-testing after repairs required by this clause shall not be paid for.

This pressure test shall also comply with the requirements of SABS 1200 L and ASME B31.4.

Records

The *Contractor* shall record the following information during the hydro-testing of the pipeline and hand the completed record over to The *Employer* after commissioning of the Works:

a) test medium
b) test pressure
c) test duration
d) test date
e) pressure recording chart and pressure log
f) pressure at high and low elevations
g) elevation at point test pressure measured
h) person(s) conducting test, Contractor, and testing sub-Contractor.
i) Environmental factors (ambient temperatures, raining, windy etc.)
j) Manufacturer (pipe, valves, fittings, other equipment, etc.)
k) Pipe specifications (SMYS, diameter, wall thickness, etc.)
l) Clear identification of what is in each test section
m) Description of any leaks or failures and their disposition

6.3.19 Testing and Commissioning

Testing

On completion of hydraulic testing, all new pipelines shall be completely flushed out with clean water for a period of not less than five minutes and at a velocity greater than 4m/s to ensure the removal of any remaining debris to the satisfaction of the *Project Manager*.

After flushing all pipelines are to be cleaned with a foam cleaning pig or other suitable "pull through" until proven clean to the satisfaction of the *Project Manager*.

In addition to the above, the following tests shall be performed:

Product Pipework

After pressure testing and flushing of the pipelines, all isolating valves shall be installed and the pipework hydraulically pressurised to the rated pressure. Each valve, either new or existing used in new lines, shall then be opened and closed and visually checked for leakage.

Commissioning

Prior to commissioning, all product pipelines that have been hydro tested shall be thoroughly drained of water.

Commissioning shall be directed by the Employer but the *Contractor* and any specialist suppliers, (e.g. for pumps, valves, instrumentation etc) shall attend and assist the *Employer* as necessary.

6.3.20 Installation of Equipment

Equipment (such as valves, pumps, strainers, flow meters, regulators, etc.) shall be installed in accordance with the manufacturer's instructions.

Equipment shall be installed in such as manner as to prevent undue stresses on the connecting piping and/or equipment or fittings. All piping connections shall be stress free.

Valves in chambers shall be installed with their operating spindles vertical. The orientation of all other valves shall be agreed with the *Project Manager* prior to installation. The *Contractor* shall supply all the insertions and bolts necessary for the installation of valves and shall include for these in his tendered rates.

Care is to be taken not to damage the corrosion protection, valve internal and external fittings and threads. All data sheets are to be referred to the valves as installed. Unless otherwise notified it will be assumed that the valves are delivered undamaged to the *Contractor*.

The *Contractor* is to ensure that all necessary internal components and consumables (lubrication, etc.) are installed prior to installation. Free issue equipment that are incomplete or incorrectly assembled, shall be brought to attention to the *Project Manager* prior to installation.

Payment is to be per number installed and includes for off-loading and storage on site. All surplus free issue valves are to be returned.

Any damage after receipt will be deemed due to the Contractor's negligence and will be for his account.

6.3.21 As Built Drawings

The *Contractor* will be required to mark "as built' information on a set of prints to permit modification of the original drawings by the *Project Manager*.

6.3.22 Protection of Pumps, Valves and equipment

6.3.22.1 External Protection

External protection of valves and strainers shall be as specified for above ground pipes in clause 6.3.3, unless otherwise specified by the manufacturer and agreed to by the *Project Manager*. Pumps and meters are to be supplied externally protected per the manufacturer's standard specifications and following installation externally protected as per 6.3.3, after wire brushing & degreasing.

6.3.23 Ownership of Demolished Materials

Where items are to be demolished or dismantled and stockpiled on site, the items shall remain the property of the *Employer*.

Where items are to be demolished or dismantled and removed off site, the items shall become the property of the *Contractor* unless otherwise specified in the contract document or schedule of quantities.

All items disposed of offsite must be disposed of at a recognised waste disposal site. Safe disposal certificates must be retained and submitted to the *Employer*.

6.4 Pipeline replacement requirements and procedures

The requirements of section 6.3 of this document are also applicable for this section

6.4.1 Decommissioning of the Pipelines

(a) The *Contractor* may be required to assist TNPA in the draining of product from redundant pipelines and manifold and flushing them with water.
(b) The existing pipeline is to be removed together with all other valves and fittings as identified by the *Project Manager* and transported to storage.
(c) All lines are to be ventilated naturally after which TNPA will conduct gas tests until the lines can be declared suitable for the issue of hot work permits.

6.4.2 Welding

(a) Activities defined as "hot-work" can only be carried out under a valid "hot-work" permit issued on a daily basis by an authorised employee of TNPA.
(b) The *Contractor* is to carry out a site inspection to determine the extent of welding required on each line for permit purposes.
(c) Only API 1107 coded welders are to be employed on this work which should conform with the requirements of ASMB 31.4 and API 2200.
(d) Dye penetrant testing shall be carried out on seal welding and shall be witnessed by TNPA, the Project Manager, the Supervisor or an AIA. The choice of witness shall be as per the *Project Manager's* instruction.

6.4.3 Hydrotesting

On completion of welding, welding repairs, fitting of any relief valves & installation of new pipe sections, the pipelines are to be filled with water provided by the *Employer* taking care to expel all air (from high points).

Hydrostatic testing is to be carried out at a test pressure to be agreed with the *Project Manager* and in accordance with ASME B31.4 and ANSI/ API 1110.

On completion these lines are to be drained of water to the satisfaction of the *Project Manager*.

6.4.4 External Protection

External protection shall include surface preparation and painting / corrosion protection.

All work shall be carried out in accordance with clause 6.3.3 of the Project Specification.

All repairs/ new work shall be sand blasted if the position of the pipe allows or the pipe may be removed to a location where it can be sand blasted. If neither of the prior options is available the pipe shall be wire brushed.

6.4.5 Requirements for Line Pipe and Fittings

All line pipe and fittings shall comply with the requirements of the piping design code (ASME B31.3 or ASME B31.4) and clause 6.3.2 of the project specification.

6.4.6 Corrosion Protection

Corrosion protection of all new, damaged and modified pipe sections shall be carried out in accordance with clause 6.3.3 of the Project Specification.

6.4.7 Handling and Construction

6.4.7.1 Plant General

All plant and machinery shall be in good condition and of a proper capacity for the work being undertaken.

A spare welding machine shall be available at all times.

The *Project Manager* shall have the right to order immediate removal from the site of any plant which he may deem to be unsatisfactory for the proper execution of the work. The *Contractor* shall obtain satisfactory plant to replace that removed without delay.

6.4.7.2 Uplifting, Transporting, Handling and Rigging

The *Contractor* shall provide all cranes, trucks and general handling equipment for the handling, lifting and transporting of all materials.

The plant and rigging equipment used for the handling and placing of pipes shall be such that no pipe shell is over-stressed during any operation.

The *Contractor* shall supply, operate and maintain an adequate fleet of vehicles to be used for the safe conveyance of pipes, specials and fittings. The pipes and specials shall be handled with care at all times to avoid damage to them or to the protective coatings.

The equipment for the purpose of loading, transporting, unloading and moving and the manner in which they are handled shall be subject to the approval of the *Project Manager*.

During transport and storage, the pipes and specials shall be supported on suitable plastic bags. All pipes and specials shall be separated so as not to bear against each other and shall be firmly secured by suitable padded lashings to prevent movement and damage in transit. The pipes and specials shall not be dropped, bumped or subjected to shock or rough handling and any pipe damaged during transport or handling may be rejected by the *Project Manager*.

In the case of pipes and specials with bitumen coating, the coating shall not be allowed to come into contact with the ground during handling.

The use of bare cables, chains, hooks or narrow skids will not be permitted and the *Contractor* shall supply canvas slings and padded skids and ramps of a sufficient width to prevent damage to the protective coating. The dragging and skidding of pipes and specials in contact with the ground shall not be permitted.

Where pipes are stored for lengthy periods, resulting, in the Engineer's opinion, in the deterioration of the whitewash outer coating, the *Contractor* shall apply further coats as and when required by the *Project Manager*, at his own expense.

6.4.7.3 Transportation of Line Pipe

All pipes shall be loaded in accordance with API RP5L1 or API RP5LW.

Where it is not possible to establish that pipe was transported in accordance with the appropriate recommended practice, the pipe must be hydrostatically tested for at least 2 hours to at least 1.5 times the maximum allowable operating pressure.

6.4.7.4 Stacking Of Pipes And Specials

Where a pipe yard is provided, all pipes and specials shall be neatly and methodically arranged above the ground on delivery, as directed by the *Project Manager*. Pipes, specials and equipment may not be stored directly on the ground. Pallets or other suitable storage equipment shall be provided by the *Contractor*.

Caps shall be provided by the *Contractor* for all open ends.

They shall be segregated according to diameters and working pressures and the various stacks shall be arranged and separated in such a way that a pipe of any diameter and working pressure can be located from the stacked position without the necessity of moving other pipes.

6.4.7.5 Inspection At The Laying Site

All pipes, specials, valves and fittings shall be carefully examined by the *Contractor* for internal and external damage at the following stages:

(a) on arrival at the laying site,
(b) prior to laying,
(c) after laying,
(d) prior to backfilling, and
(e) during backfilling.

All damage or defects of any kind shall be repaired by the *Contractor* to the satisfaction of the *Project Manager* immediately after detection at any of the above inspections. Where, in the opinion of the *Project Manager*, satisfactory repairs are not practicable, the damaged materials shall be replaced by the *Contractor* at his own cost.

6.4.7.6 Setting Out

The *Contractor* may use any acceptable device (subject to a work permit being issued), including one incorporating a laser beam, to control the alignment and levels of pipes.

The *Contractor* shall allow for a registered surveyor to mark-out any setting out points in accordance with the *Project Manager's* drawings.

6.4.7.7 Installation Of Pipes And Specials

All pipes and specials shall be laid true to line and level as shown on the drawings or as directed by the *Project Manager*.

Pipes and specials shall be lowered gently and carefully into the trench without jarring or bumping by crane, derrick or other approved lifting tackle and care shall be taken not to damage the pipe or its sheathing. Pipes and specials with bitumen or other soft sheathing shall be supported in stout wide canvas slings and no wooden blocks shall be used to support such pipes, either on the side or in the trench. Any supports required shall be formed with the specified bedding material.

The *Contractor* shall ensure that all pipe barrels are evenly supported over the whole of their length and that no weight is taken by the joints. The trench bottom shall, where necessary, be accurately trimmed by hand and each pipe shall be firmly bedded down before backfilling is commenced.

All internal surfaces of pipes and specials shall be kept clean and free of foreign matter, both during and after laying. The surface of all joints shall be thoroughly cleaned before the pipe or special is placed in its final position. No water shall be allowed to come into contact with or run through the pipe before the joint, including its protection, has been completed and at no time shall muddy, clayey or dirty water be allowed to enter the pipe.

Exposed ends of the pipe in the trench shall be tightly closed by suitable bulkheads at all times when pipe laying is not actually in progress.

For ease of inspection and testing, the pipes shall be laid with the manufacturer's class and quality identification marks visible from the top of the trench.

6.4.7.7.1 Trench Fill

All trench fill is to be sifted and granular. The fill and bedding shall have a plasticity index (PI) not exceeding 10 and shall be free of vegetation and lumps or stones exceeding 10mm diameter.

The bedding is to be a compacted 150mm layer on the bottom of the trench. The padding is to be a compacted 150mm layer on all sides of the pipe. The bedding compaction is to be 85-90% Mod AASHTO.

No back-filling is to be done until a release certificate has been issued by the *Project Manager*.

6.4.7.8 Inspection Provisions

The *Contractor* shall provide suitable inspection. The inspector appointed by the *Contractor* shall have the authority to order the repair or removal and replacement of any component that fails to meet the requirements of this specification.

The installation inspection provisions for pipelines shall include at least the following inspections at sufficiently frequent intervals to ensure good quality of workmanship. The *Contractor* shall co-operate fully in this regard. It shall be the responsibility of the *Contractor* to inform The *Employer* timeously of the date and time that the inspection described below can be carried out. Any costs associated with the repeat of any activities to allow the inspections described below to be carried out shall be at the *Contractor's* expense.

- Inspect the surface of the pipe for serious surface defects just prior to the coating operation.
- Inspect the surface of the pipe coating as it is lowered into the ditch to find coating lacerations that indicate they might have been damaged after being coated.
- Inspect the fitup of the joints before the weld is made.
- Visually inspect the stringer beads before subsequent beads are applied.
- Inspect the completed welds before they are covered with coating.
- Inspect the condition of the ditch bottom just before the pipe is lowered in.
- Inspect the fit of the pipe to the ditch before backfilling.
- Inspect all repairs, replacements, or changes ordered before they are covered.
- Perform such special tests and inspections as are required by the specifications, such as non-destructive testing of welds and electrical testing of the protective coating.
- Inspect backfill material prior to use and observe backfill procedure to ensure no damage occurs to the coating in the process of backfilling.

6.4.8 Installation of valves, flowmeters, regulators and fittings

Valves, flowmeters, regulators and fittings shall be installed in accordance with the manufacturer's instructions.

Valves, flowmeters, regulators and fittings shall be installed in such as manner as to prevent undue stresses on the connecting piping and/or equipment or fittings.

Valves in chambers shall be installed with their operating spindles vertical. The orientation of all other valves shall be agreed with the *Project Manager* prior to installation. The *Contractor* shall supply all the insertions and bolts necessary for the installation of valves and shall include for these in his tendered rates.

Care is to be taken not to damage the corrosion protection, valve internal and external fittings and threads. All data sheets are to be referred to the valves as installed. Unless otherwise notified it will be assumed that the valves are delivered undamaged to the *Contractor*.

Bolt-ups and colour coding are measured elsewhere. The *Contractor* is to ensure that baskets are in all the strainers upon delivery.

Payment is to be per number installed and includes for off-loading and storage on site. All surplus free issue valves are to be returned.

Any damage after receipt will be deemed due to the *Contractor's* negligence and will be for his account.

6.4.9 Valves

6.4.9.1 Valves - (Option 1 : To Supply / Option 2 : Free Issue)

6.4.9.1.1 General

All valves are to be supplied with test certificates and are to be tagged as per the data sheets. All valves are to be supplied with end caps to prevent dirt ingress and damage to the internal surfaces.

All valves shall be factory tested for seal and body leakage and opening and closing torques at the pressures specified in the Project Specification. Testing shall be done from both directions. Each valve shall have a test certificate verifying that these tests have been successfully performed. In addition, 10 percent of the valves of each diameter shall be re-tested by an independent testing agency for seal and body leakage and opening and closing torques.

The *Contractor* shall include in his tendered rates for all testing as specified above.

All valves shall have an aluminium or stainless steel plate securely fixed to the valve body with non corrodible fixings giving the following information:

The manufacturer's name
The pressure rating of the valve
The direction of flow, where applicable
The body, seal, disc and spring material, where applicable
The date of manufacture
The valve serial number

The identification plate shall be attached to the valve in such a position that it may be easily observed when the valve is located in its final position.

Valves shall be actuated using one of the following : cast iron or cast steel handwheel; hand lever; 30mm square cap top; chain and sprocket; electric actuator or other special system, as described in the Project Specification.

Where chains and sprockets are used the sprocket wheel shall be fitted with a cage to keep the chain in position when in use. Where handwheels are used the direction of opening shall be clearly marked on the handwheel. Where fitted, extension spindles shall be of the same quality material as the valve spindles.

The valves shall be capable of being easily operated by one man against the maximum unbalanced pressure and the effort required to operate the valve shall not exceed a handwheel rim pull of 400 Newton. If no handwheel is fitted, the operating torque shall be that which would be generated by a rim pull of 400 N on the applicable standard handwheel.

All valves of nominal diameter 200mm and above shall be fitted with gearboxes. All gearboxes shall be easily removable from the valve body for replacement or maintenance without removing the valve or affecting the valve integrity. All gearboxes shall be of cast iron or ductile iron and shall be sufficiently waterproof to allow for permanent submersion in 20m of water and shall be able to withstand industrial and underground environments.

All quarter turn valves shall incorporate a position indicator and adjustable limit stops to prevent over opening or over closing.

The drilling of valve flanges shall be compatible with the appropriate mating flanges.

Fountain keys shall be cast iron or hot dip galvanised mild steel.

6.4.9.1.2 Valves (Option 2: Free Issue)

Upon receipt of any free issue materials, the *Contractor* is to inspect it for mechanical damage and sign receipt of the materials as being defect free.

Valves are to be uplifted from the *Employer's* stores and installed as required by the drawings.

Any damage after receipt will be deemed due to the Contractor's negligence and will be for his account.

Care is to be taken not to damage the corrosion protection, valve internal and external fittings and threads. All data sheets are to be referred to the valves as installed. Unless otherwise notified it will be assumed that the valves are delivered undamaged to the *Contractor*.

Payment is to be per number installed and includes for off loading and storage on site. All surplus free issue valves are to be returned.

6.4.10 Thrust Blocks

Thrust blocks are not required unless otherwise indicated on the drawings.

6.4.11 U-Bolts

U-bolts are required at some supports. All U-bolts are to be non grip and are to electrically insulate the u-bolt from the pipe support sleeves around U-bolts will not be accepted. All U-bolts are to be M12 stainless steel 316, unless otherwise specified on the drawings.

Where the U-bolts are a dissimilar material to the pipe, an insulating strip is to be placed around the pipe to prevent galvanic corrosion. Where the u-bolts are to be bolted to a pipe support of dissimilar material then the u-bolts are to be isolated by means of nylon top-hat washers. The nylon is to be specified to prevent embrittlement and degradation due to the environmental conditions.

A 6mm thick Teflon pad is to be placed between the pipe and structural steel supports, the u-bolts are to locate and fix the Teflon pads. See standard drawing for Teflon pad and fixing.

6.4.12 Anchors

Anchors are not required unless otherwise indicated on the drawings.

6.4.13 Brackets / Supports

All brackets are to be hot dip galvanised to SABS 763 unless otherwise noted on the drawings. All damaged galvanising is to be repaired with cold galvanised as recommended by the paint supplier (minimum 2 coats). All bracket details are to be submitted to the *Project Manager* for approval a minimum of 1 week before they are due to be manufactured.

6.4.14 Scaffolding

Scaffolding is to comply with both the OHS Act and the depot standards. Safe for use tags clearly showing the inspection and expiry date are required on all scaffold towers/access points.

6.4.15 Viking Johnson Flange Adapters and Stepped Couplings

Where Viking Johnson flange adapters are scheduled, they shall be installed in conjunction with a system of restraining rods and flanges or lugs as shown on the drawings to prevent longitudinal separation of the pipeline. All adapters and their restraining rods etc shall be hot dip galvanised with screw threads undercut prior to galvanising. Where the adapters are buried, the whole unit shall further be protected as specified for flanges. Where adapters are exposed to view either in manhole chambers, buildings etc, the paint system specified shall generally be applied but modified for coating on top of galvanised surfaces.

All Viking Johnson flange adapters shall be supplied by the *CONTRACTOR* unless specified otherwise.

All elastomer seals shall be Nitrile rubber.

6.4.16 Strainers / Filters

Strainers shall be installed in the positions shown on the drawings. Unless otherwise scheduled, strainers shall be of the basket pattern with a Carbon Steel body and flanged ends.

The *Employer* will decide if the strainers are to be free issued to the *Contractor*, or if the *Contractor* will supply the strainers.

6.4.17 Cradles and Clamps

All steel for the manufacture of cradles and clamps and shoes shall be grade 350W steel. All welds are to be 6 mm continuous fillet welds. All cradles and clamps and shoes shall be sandblasted and painted as per the specification or drawings.

All U-Bolts shall be 316 stainless steel.

Minimum thickness of all brackets is 6 mm. 6 mm TEFLON strips are to be placed under all pipes between the pipe and support (width to match support width).

6.4.18 Testing

6.4.18.1 Protective Coatings And Linings

The *Contractor* shall provide all necessary labour and equipment for conducting the tests as described below. All tests are to be carried out in the presence of the *Project Manager* at such time and in such manner as he may direct.

All coatings and linings provided by the *Contractor* shall be tested in accordance with Appendix B of BS 534 using a high voltage holiday detector.

6.4.18.2 Hydraulic Testing Of Pipeline

6.4.18.2.1 General

The whole of the pipeline shall be tested as directed by the *Project Manager*. Blank flanges with necessary air, water and pressure gauge connections shall be provided by the *Contractor* for this purpose. Before testing any pipeline all construction work on the pipeline shall be complete unless otherwise specifically directed by the *Project Manager*.

All joints, including welds, are to be left un-insulated and exposed for examination during the tests. Vents, drains and relief valves shall be utilised to prevent damage to the piping system due to expansion of the test fluid during the test period. Any test on process piping shall include a preliminary pneumatic check at no more than 200 kPa gauge.

The maximum operating pressure of each piece of equipment, including instruments, shall be checked against the test pressure of the piping system in which the piece of equipment is incorporated. If the test pressure of the piping system is greater than the maximum operating pressure of the equipment, the equipment shall be blanked off and tested separately. All expansion joint/bellows in process lines shall be removed prior to testing.

All piping which is pneumatically tested, such as process piping, instrument air, plant air and other low pressure piping, is tested at a pressure of 110 per cent of the maximum operating pressure. Any leaks found during the tests shall be repaired and re-tested to the satisfaction of the *Project Manager*.

Water may be used for hydrostatic testing of process lines provided special precautions are taken for draining and drying the lines.

Other testing fluids may be used provided they are approved by the *Project Manager* before testing is started.

All piping, vessels, exchangers, etc. shall be completely drained of all fluid after testing. Special precautions should be taken to ensure that all pockets where fluid may be trapped are properly drained.

All piping tested with water, in which water would be detrimental to the process operation, shall be thoroughly dried. The *Project Manager* shall determine when the piping is dry.

The Contractor shall supply all necessary water or other fluid if so specified, labour and equipment for conducting the tests as described herein. All tests shall be carried out in the presence of the *Project Manager* at such times and in such manner as he may direct.

6.4.18.2.2 Static Test

The pipeline shall be filled with water, all scours on the section being opened fully for one minute or until the water emerges clean. If after 48 hours the *Project Manager* is satisfied that there are no major leaks, the pressure test shall be carried out.

6.4.18.2.3 Pressure Test

A suitable pump shall be connected to the pipeline at a mutually agreed point.

The pressure in the pipeline under test shall be raised slowly by means of the pump and measured by a pressure gauge connected to the pipeline. The full test pressure shall be maintained for at least 60 minutes, or longer if so required by the *Project Manager*.

The test pressure shall be 1.5 times the maximum operating pressure.

No section of a pipeline shall be tested against a closed valve.

The *Contractor* shall be paid under the appropriate item in the Schedule of Quantities for hydraulic tests. Re-testing after repairs required by this clause shall not be paid for.

6.4.18.2.4 Records

The *Contractor* shall record the following information during the hydro-testing of the pipeline and hand the completed record over to The *Employer* after commissioning of the Works:

- test medium
- test pressure
- test duration
- test date
- pressure recording chart and pressure log
- pressure at high and low elevations
- elevation at point test pressure measured
- person(s) conducting test, Contractor, and testing sub-Contractor.
- Environmental factors (ambient temperatures, raining, windy etc.)
- Manufacturer (pipe, valves, fittings, other equipment, etc.)
- Pipe specifications (SMYS, diameter, wall thickness, etc.)
- Clear identification of what is in each test section
- Description of any leaks or failures and their disposition

6.4.19 Quality Control

6.4.19.1 Data Book

The *Contractor* shall build and maintain a quality data book which shall as a minimum have the following sections;

- Final Acceptance and Hand-over forms
- Quality Control Plans
- Drawings
- General Arrangement Drawings
- Weld Maps indicated on Isometric Drawings
- Material identification Maps shown on Isometric Drawings
- Pressure Test Layouts
- Welding register
- Radiographic and Surveillance Reports
- Material Certificates
- Pressure Test Certificates
- Corrosion Protection Inspection Certificates
- Welding Procedures and Welders Coding Certificates

In general the data bock should be indexed in the following order:

1. Certificate of Manufacture. (Release and handover certificates can be included here as sub-indices).

2. Quality control plans

3. Welding:
   a. Welders WPQ
   b. WPS
   c. PQR
   d. Welding consumable certificates

4. NDT
   a. NDT procedures
   b. NDT technicians qualifications
   c. NDT reports
   d. NDT map

5. Materials
   a. Material certificates
   b. Material allocation map

6. Corrosion Protection
   a. Material certificates
   b. Application procedures
   c. Application datasheets
   d. Test certificates

7. Equipment
   a. Certificates

8. Design
   a. Construction drawings
   b. Marked up drawings
   c. Design review

6.4.19.2 Quality Procedures

A detailed quality plan is to be submitted, before any work may commence, for approval of hold, witness, and inspection, points. The quality plan shall be tailored to comply with the *Employer's* specific requirements. A sample of the proposed plan is to accompany the tender.

The quality Control Plans shall as a minimum have the following activities;

- Documentation
- Drawing Approval
- Material Identification
- Material ID Map
- Welding Procedure Approval
- Welders Certificate Approval
- Approve QCP
- Weld Map Approval
- Dimension Check
- NDE
- Radiography
- M. P. I.
- Pressure Test
- Corrosion Protection
- Wrapping
- Final Inspection

The Tenderer shall state in his tender the name of the painting *sub-Contractor* that he proposes to use to carry out any corrosion protection work under this contract.

The *Contractor* shall transfer the material trace number onto all pieces of the pipeline.

The *Contractor* shall ensure that all his *sub-Contractors* have obtained a copy of this specification.

The *Contractor* shall accept full responsibility for the quality of his work and of materials used, irrespective of any quality surveillance that may be carried out by the *Project Manager* or his representative.

The *Project Manager* may, at his discretion, require a Quality Audit of the *Contractor* or any of the sub-*Contractors* to ensure that he has the capabilities, resources and quality control facilities to carry out the work to ensure compliance with this specification.

The *Contractor* shall have available the latest issue of each of the manufacturer's data sheets for the materials to be used, all Specifications and Codes of Practice relevant to the work to be carried out, including a copy of this specification, all of which shall be available to the *Contractor's* Quality Control Manager.

The *Contractor* shall:

1) supply a Quality Plan and Quality Program at the time of tendering, both of which are subject to acceptance by the *Project Manager*.
2) maintain Quality Control records in accordance with the Quality Plan during execution of the contract. Such records shall be available to the *Project Manager* or his *Supervisor* at each Quality Surveillance visit.
3) mark or securely label each component with a unique identification tag, and
4) carry out such tests as are required to ensure compliance with the specification.

The cost of Quality Control shall be inclusive in the *Contractor's* tender price.

The *Project Manager* may, at his discretion, employ an independent technically qualified organisation to carry out quality surveillance of the work on his behalf. In the event of dispute, the *Project Manager's* decision shall be final.

The *Contractor* shall advise the *Project Manager* timeously, in writing, when and where the following processes will be carried out;

1) Completion of fettling or dressing prior to leaving the fabricator's works
2) Blast cleaning and application of the first or primer coat
3) After completion of all coats to be applied at the Contractor's works
4) At the commencement of repairs or overcoats of existing equipment to be carried out on site.

Failure of the *Contractor* to advise the *Project Manager* of his program may result in rejection of the work. The cost of any such rejection shall be borne by the Contractor.

For the purpose of carrying out quality surveillance, the *Project Manager* or his representative shall be granted access to any part of the Contractor's premises relevant to the work being carried out, at any reasonable time. The Contractor shall provide, at his own cost, any equipment or labour necessary to gain access to surfaces which are coated, to be coated or are in the process of being coated.

The cost of Quality Surveillance will be borne by The *Contractor*.

Quality Control Reports shall be updated regularly and a copy of all relevant reports shall accompany all payment certificates. No payments will be authorised by the Engineer unless a copy of an approval report has been received by him. The *Project Manager* may withhold payment until a final report has been issued, giving approval to the components after installation on site and repair of damage to coating.

Proper and adequate quality control records shall be maintained by the *Contractor* for all stages of the work. These records shall be available for inspection by the *Project Manager* or his representative at the time of Quality Surveillance, Incomplete, inaccurate or inadequate records shall be regarded as non-compliance with the specification, and the cost of surveillance will be back charged to the *Contractor*.

No variation from specification, or change of sub-Contractor or materials to be used from those stated in the tender documents, will be permitted without written approval of the *Project Manager*. Products equivalent to those specified may be submitted for approval. Adequate information shall be supplied by the *Contractor* to *Project Manager* in order to assess the claim of equivalence from the *Contractor*.

6.4.20 Drawings

The *Contractor* shall be provided with a set of construction. The timing of the issuing of drawing is at the discretion of the *Project Manager* based on the stage of the project, necessary milestones and the programme. It cannot be assumed that all drawings will be issued at the start of the project.

Piping 40NB and smaller will be site run. Drawings provided for these pipelines should be used a routing guide rather than for dimensionally accuracy.

Only drawings marked "ISSUED FOR CONSTRUCTION" and signed by the *Project Manager* may be used. While every effort has been made to ensure the accuracy of the drawings, and provision has been made for site, shop and field welds, the Contractor is to confirm all dimensions prior to fabrication. Confirmation of the drawings must be done on site and, provided it does not hinder operations or safety, be marked out physically.

On completion of the contract the *Contractor* is to supply the *Project Manager* with a set of dimensioned "as built" drawings, hand alterations on the latest revision will be acceptable.

All dimensions must be checked and marked as correct or a new direction inserted.

Before any trenching is done for the laying of any piping the final route for such piping shall first be confirmed with the *Project Manager*.

6.4.21 Commissioning Facilities

6.4.21.1 General

Written procedures shall be established for commissioning. Procedures shall consider the characteristics of the fluid to be transported, the need to isolate the pipeline from other connected facilities, and the transfer of the constructed pipeline to those responsible for its operation.

Commissioning procedures, devices, and fluids shall be selected to ensure that nothing is introduced into the pipeline system that will be incompatible with the fluid to be transported, or with the materials in the pipeline components.

The *Employer* shall be consulted to determine the commissioning procedures.

6.4.21.2 Cleaning and Drying Procedures

Consideration shall be given to the need for cleaning and drying the pipe and its components beyond that required for removal of the test medium.

6.4.21.3 Functional Testing of Equipment and Systems

As a part of commissioning, all pipeline and compressor station monitor and control equipment and systems shall be fully function-tested, especially including safety systems such as pressure and flow-monitoring systems, and emergency pipeline shut-down systems. Consideration should also be given to performing a final test of pipeline valves before the fluid is introduced to ensure that each valve is operating correctly.

6.4.21.4 Start-up Procedures and Introduction of Transported Fluid

Written start-up procedures from the *Employer* shall be obtained and followed before introducing the transported gas into the system and shall require the following;

- the system be mechanically complete and operational
- all functional tests be performed and accepted
- all necessary safety systems be operational
- operating procedures be available
- a communications system be established
- transfer of the completed pipeline system to those responsible for its operation.

6.4.21.5 Documents and Records

The following commissioning records shall be maintained as permanent records;

- cleaning and drying procedures
- cleaning and drying results
- function testing records of pipeline monitoring
- control equipment systems
- completed pre-start checklist

6.4.22 Measurement and payment

Measurement and payment shall be in accordance with the provisions of SABS 1200 L unless otherwise provided in the Schedule of Quantities or in the Project Specification.

Payment will be for meters as installed and not as supplied or billed.

7. Drawings

DRAWING NO. 6684 - D01 - Proposed General Arrangements

DRAWING NO. 16684 - D02 – REV B General arrangement of proposed fire fighting Pumphouse

DRAWING NO. 16684 - D03 – REV B Sections and isometric view of fire fighting Pump Station

DRAWING NO. 16684 - D04 – REV B Isometric view of vertical turbine pumps

DRAWING NO. 16684 - D05 – REV B Demolition Drawing

PART 4: SITE INFORMATION

1. Description of the Site and its surroundings

1.1. General description

The Site is located at the Tanker Berth in the West Bank of Port of East London.

1.2. Existing buildings, structures, and plant & machinery on the Site

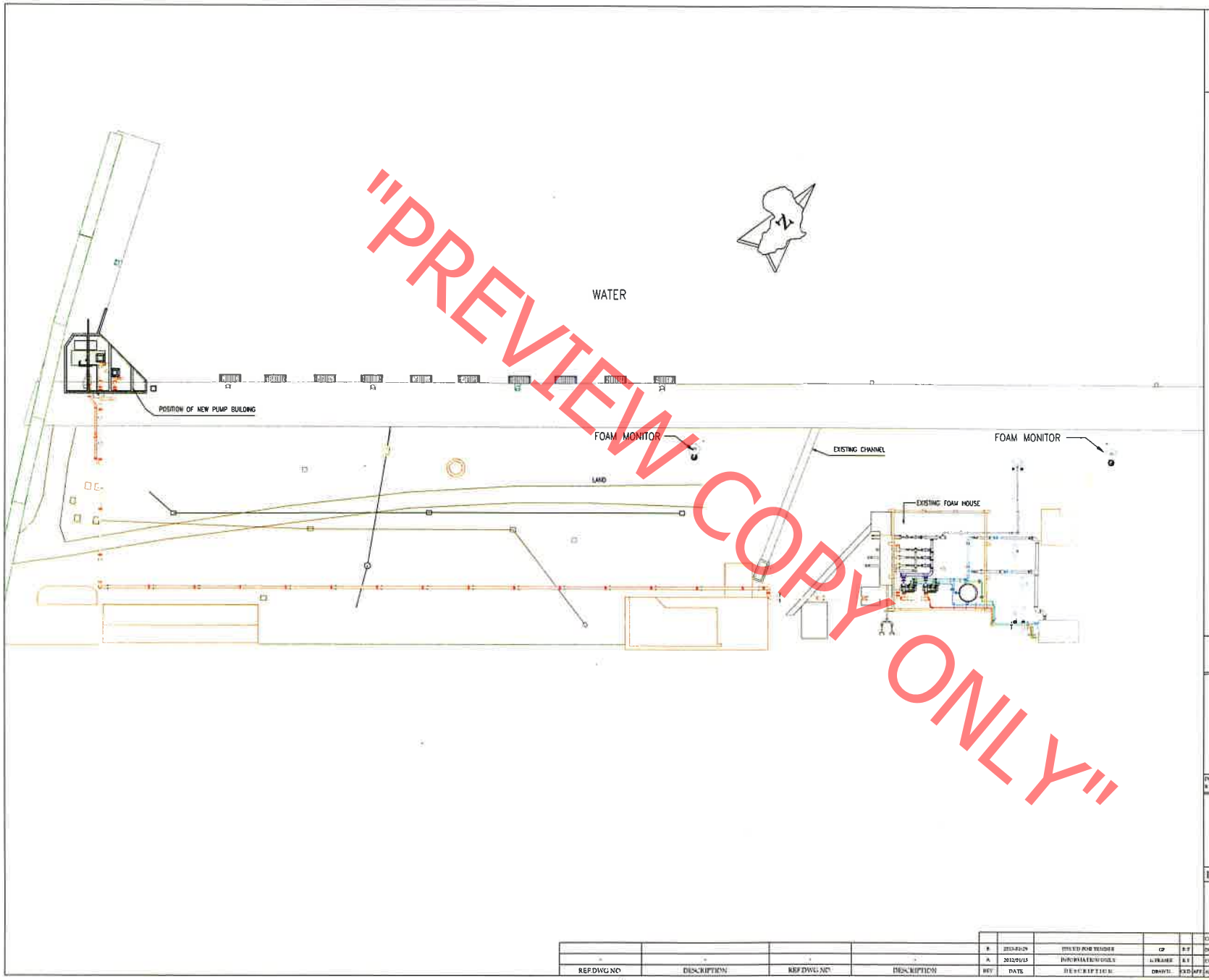
The construction area is in an operational area for Berthing of Vessels and no work should be done when the Vessels is discharging Fuel. Vehicles entering and leaving the Port and must be managed effectively

1.3. Subsoil information

Port of East London vicinity is synonymous with rocky conditions

1.4. Hidden services

All services will be pointed out i.e. water and electrical



LEGEND:

- SEA WATER
- FOAM
- REUEF LINE
- FOAM & WATER MIX

THIS IS A CAD DRAWING AND MUST NOT BE ALTERED MANUALLY

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CONSULTING ENGINEERS
Engineering African Development
P O BOX 1621 WANDSBECK 3631 TEL 0312666535

TRANSNET
national ports authority

PROJECT: TNPA EL HARBOUR FIRE FIGHTING

PROPOSED GENERAL ARRANGEMENT

REF.DWG NO	DESCRIPTION	REF.DWG NO	DESCRIPTION

REV	DATE	DESCRIPTION	DRAWN	CHKD	APP
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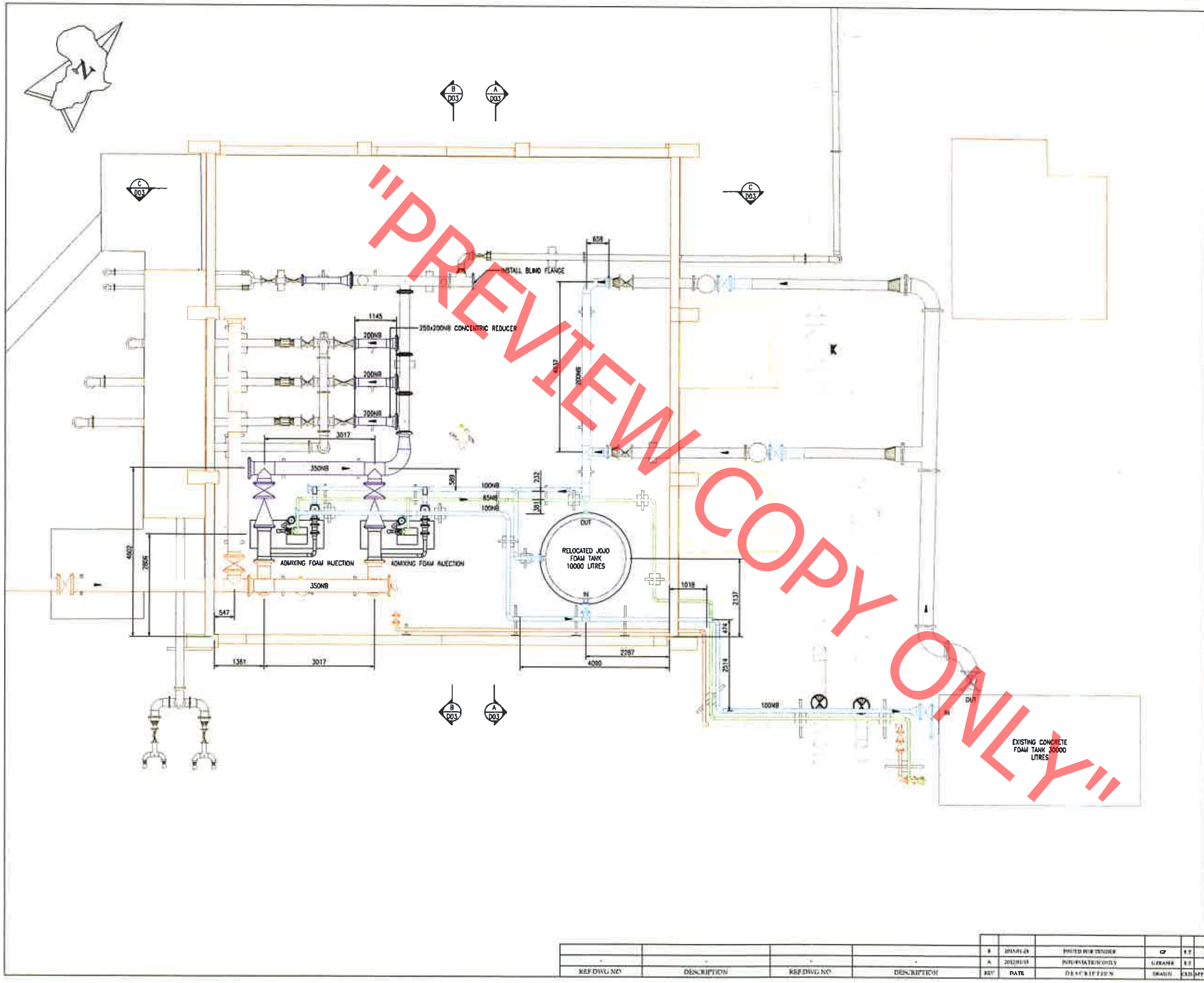
A	2012/05/15	INFORMATION ONLY	A FRAME	RT	

DRAWING No. 16684-D01 REV B



LEGEND:

- SEA WATER
- FOAM
- RELIEF LINE
- FOAM & WATER MIX
- FOAM & WATER MIX

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PROJECT: TNPA EL HARBOUR FIRE FIGHTING

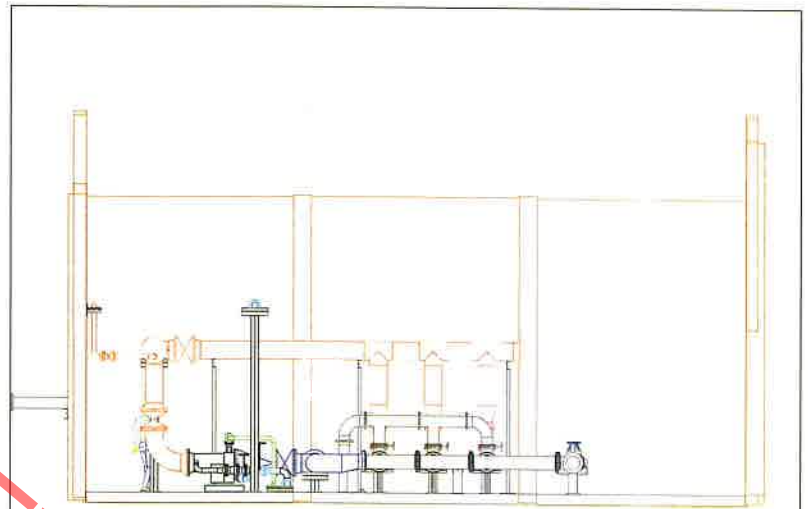
GENERAL ARRANGEMENT OF PROPOSED FIRE FIGHTING PUMP HOUSE

DRAWING No. 16684-D02

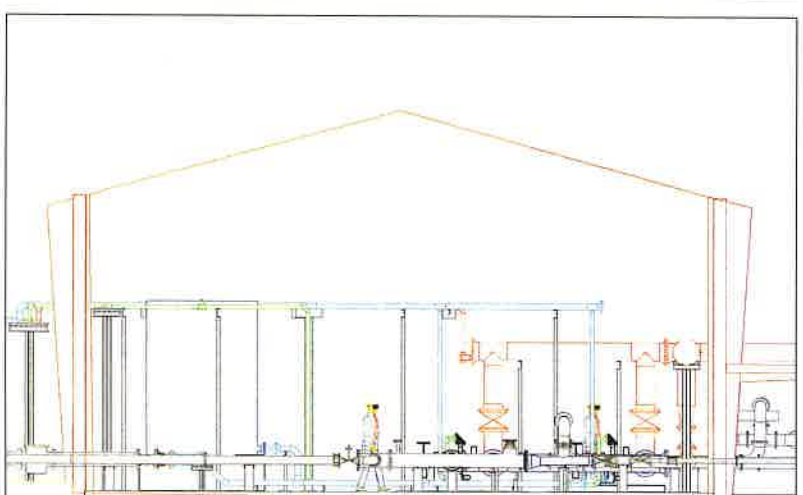
REV B

REV	DATE	DESCRIPTION
B	2013/01/28	ISSUED FOR TENDER
A	2012/01/15	INFORMATION ONLY

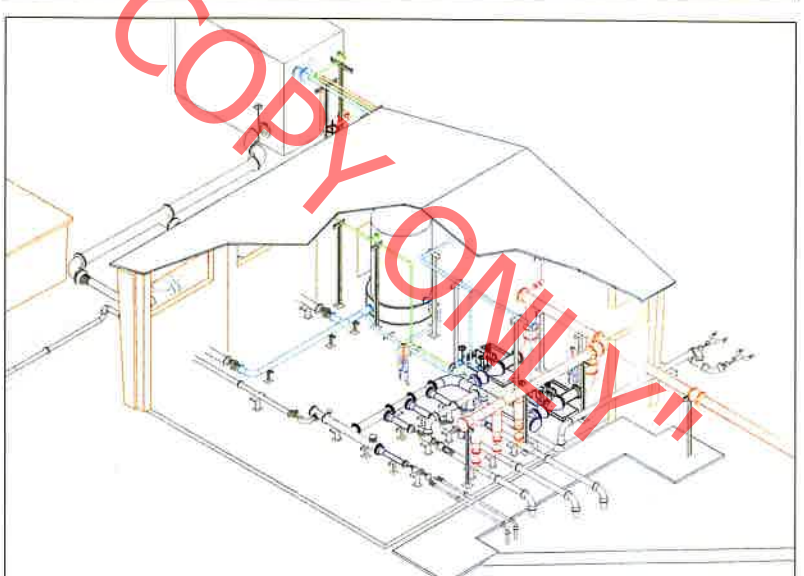
SECTION A–A
PLAN VIEW ON 16684-D01
SCALE 1:50



SECTION B–B
PLAN VIEW ON 16684-D01
SCALE 1:50



SECTION C–C
PLAN VIEW ON 16684-D01
SCALE 1:50



LEGEND:

- SEA WATER
- FOAM
- RELIEF LINE
- FOAM & WATER MIX

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PROJECT: TNPA EL HARBOUR FIRE FIGHTING

SECTIONS & ISOMETRIC VIEW OF FIRE FIGHTING PUMP STATION

REF DWG NO	DESCRIPTION	REF DWG NO	DESCRIPTION

REV	DATE	DESCRIPTION	DRAWN	CHD	APP
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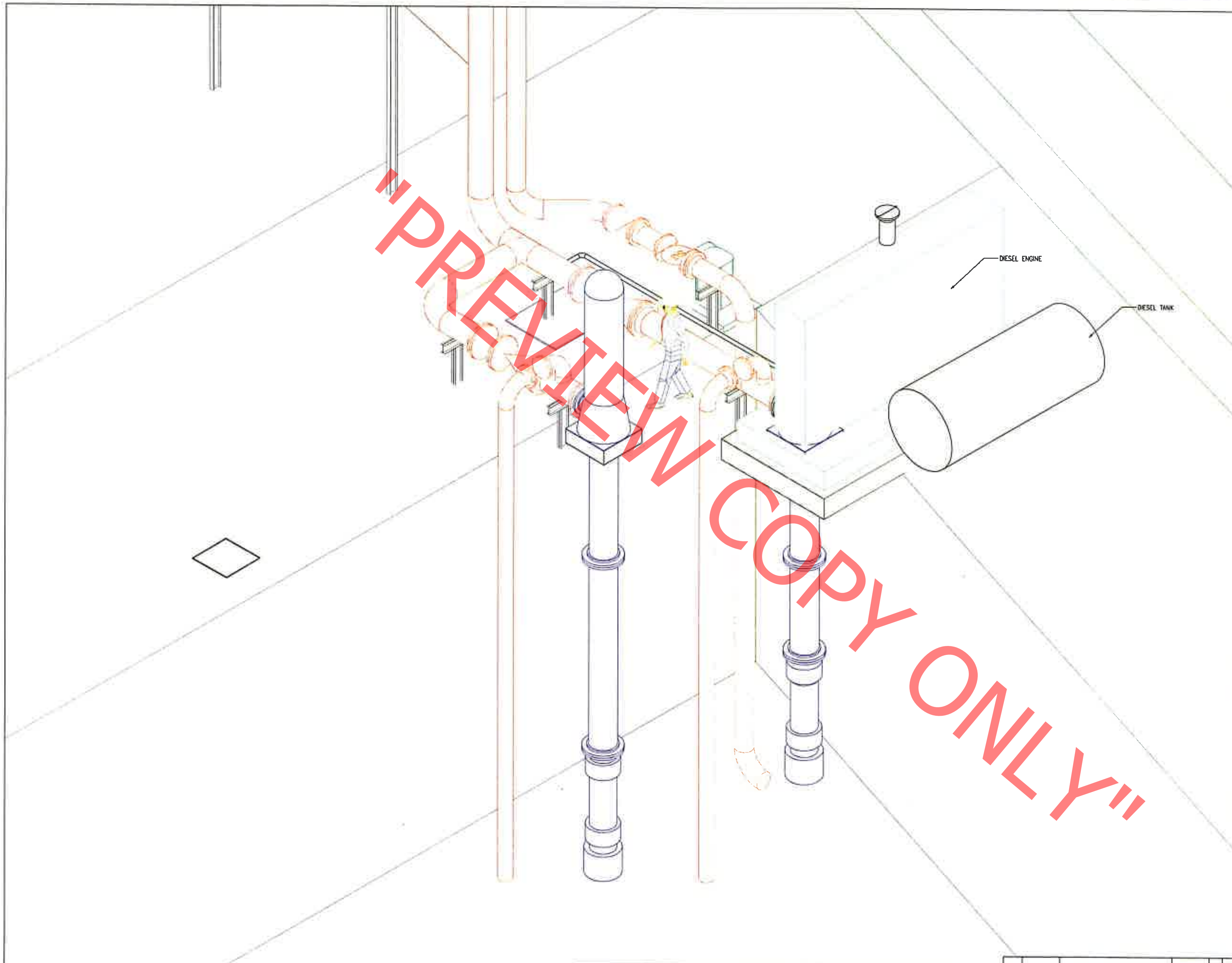
A	2021/05/05	INFORMATION ONLY	G FRASER	KT	

DRAWING No. 16684-D03 REV B



LEGEND:

- SEA WATER
- FOAM
- RELIEF LINE
- FOAM & WATER MIX

NOTE:

NEW PUMP HOUSE HAS BEEN OMITTED FOR CLARITY

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DESIGNED	DRAWN	DATE	DRAWING NO
R THOMSON	G FRASER	[illegible]	16684-D07

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PROJECT: TNPA EL HARBOUR FIRE FIGHTING

ISOMETRIC VIEW OF VERTICAL TURBINE PUMPS

REV	DATE	DESCRIPTION	DRAWN	CKD	APP
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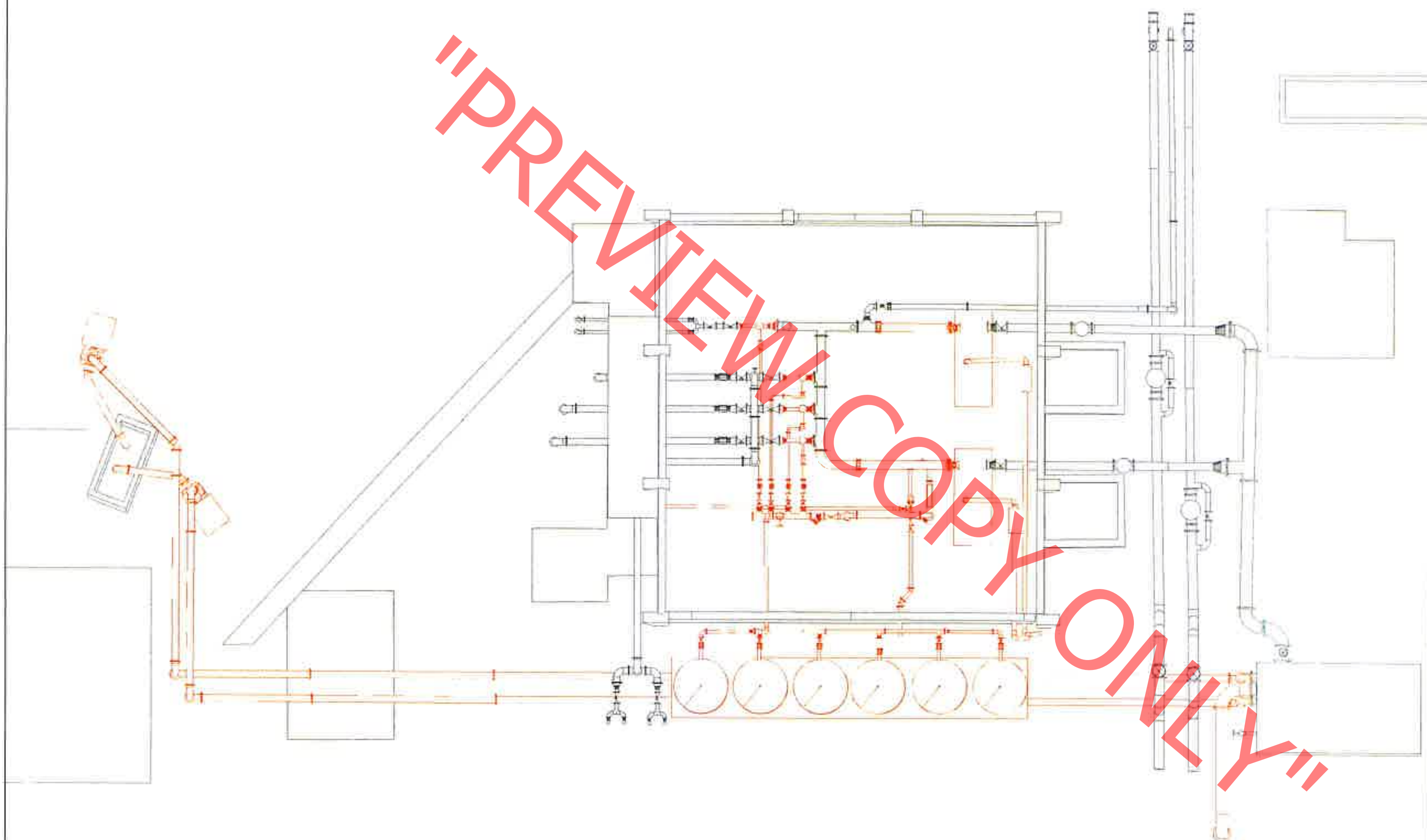
A	[illegible]	INFORMATION ONLY	G FRASER	[illegible]	

REF DWG NO	DESCRIPTION	REF DWG NO	DESCRIPTION
-	-	-	-

DRAWING No. 16684-D04

REV B



LEGEND:

TO BE DEMOLISHED

TO REMAIN

THIS IS A CAD DRAWING AND MUST NOT BE ALTERED MANUALLY

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PROJECT: TNPA EL HARBOUR FIRE FIGHTING

DEMOLITION DRAWING

REV	DATE	DESCRIPTION	DRAWN	CKD	APP
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A	[illegible]	INFORMATION ONLY	L.FRASER	[illegible]	

REF DWG NO	DESCRIPTION	REF DWG NO	DESCRIPTION

DRAWING No. 16684-D05

REV B