



BILLS OF QUANTITIES

FOR

SECURITY FENCING

AT

MINISTRY OF WORKS AND TRANSPORT

GUAICO COMPLEX

GUAICO

For

The Government of the Republic of Trinidad and Tobago

EMPLOYER'S CONSULTANTS

Chief Architect

Chief Designs Engineer

Building Manager

Quantity Surveyor



Ministry of Works and Transport

April, 2024

SECTION NO. (1) INSTRUCTIONS TO TENDERERS

A. GENERAL

1. Description of Works

- 1.1 The proposed Works comprise the Demolition of old fence wall and construction of a new Block wall and wire fence at the Ministry of Works and Transport Compound at Guaico.
- 1.2 Tenderers should note that the above is only a brief outline description of the Works and reference should be made to the drawings and all other information supplied with the Tendering Documents for further details.
- 1.3 The site is within the Ministry of Works and Transport's compound at Guaico. The location of other buildings are shown on the Site Plan. The Tenderer is to note the proximity to existing buildings adjacent to the compound.
- 1.4 Tenderers must examine the Drawings and Conditions of Contract, visit the site and satisfy themselves as to local conditions, means of access, necessity for and extent of temporary drainage, location of existing services, the extent and nature of the site and works, the restrictions and limitations, the conditions under which the demolition will be carried out, conditions affecting the supply of labour and materials, storage space for materials and plant and generally of all conditions which may in any way affect their Tenders, as no claim on grounds of lack of knowledge of any such matters will be entertained.
- 1.5 Restrictions and limitations may include those imposed by the Employer as and when necessary to ensure health and safety of individuals in conformance with the OSHA Act 2004, and the protection of property within the vicinity of the site.
- 1.6 All existing roads, pavings, services drains, sewers etc. serving the site must be protected and maintained during the contract period unless their removal is required in order to facilitate the work. In this case approved temporary measures must be taken to maintain all services and Bidders shall allow for all costs in this connection.

2. Cost of Tendering

- 2.1 The Tenderer shall bear all costs associated with the preparation and submission of his Tender and the Ministry of Works & Transport, hereinafter, referred to as "The Employer" will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the Tendering process.

3. Site Visit

- 3.1 The Tenderer is advised to visit and examine the Site of the Works and its surroundings and obtain for himself all information necessary for preparing the Tender and entering into a Contract. The costs of visiting the site shall be at the Tenderer’s own expense.
- 3.2 The Tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon his premises and lands for the purpose of such inspection, but only upon express conditions that the Tenderer, his personnel and agents, will release and indemnify the Employer and his personnel and agents from against all liability in respect thereof and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which, but for the exercise of such permission would not have arisen. Applications to visit the site must be made in the first instance with the Employer or Building Manager.

B. TENDERING DOCUMENTS

4. Contents of Tendering Document

- 4.1 The set of Tendering documents issued for the purpose of Tendering includes the number of copies stated below of the following documents, together with the Addenda thereto issued in accordance with Clause 6 and any minutes of the pre-tender meeting issued in accordance with Clause 15.

Number of Copies	Volume	Document
2	1	Instructions to Tenderers Conditions of Contract Technical Specifications Form of Tender Preliminaries Measured Work Drawings Schedules

4. Contents of Tendering Document (cont’d)

Tenderers shall **return one priced copy of the Tender Documents and all drawings** to the place of submission of Tenders on or before the closing date of Tenders.

- 4.2 The Tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the Tendering documents. Failure to comply with the requirements of the Tender submission will be at the Tenderer's own risk. Tenders which are not substantially responsive to the requirements of the Tendering documents will be rejected.

5. Drawings Provided

- 5.1 The drawings enclosed with the tender documents are provided only to give general guidance to the Tenderer in preparing his Tender.

6. Clarification of Tendering Documents

- 6.1 A prospective Tenderer requiring any clarification of the Tender Documents may notify the Building Manager in writing at the Building Manager's address indicated in tender documents. The Building Manager will respond in writing to any request for clarification which he receives earlier than 7 days prior to the deadline for submission of Tenders. Written copies of the Building Manager's response (including a description of the inquiry but without identifying its source) will be sent to all prospective Tenderers who have received the Tender Documents.
- 6.2 Such answers, as are necessary, shall be given as a matter of assistance to the Tenderer but they shall not be construed as adding to or taking away from or otherwise altering the meaning and intent of the Tender Documents, and/or the Tenderer's obligations thereunder, unless such answers are in writing and signed by Building Manager or his authorized representative.

7. Amendment of Tendering Documents

- 7.1 At any time prior to the deadline for the submission of Tenders, the Employer may, for any reasons, whether at his own initiative or in response to a clarification requested by a prospective Tenderer, modify the Tendering Documents by the issuance of an Addendum.

7. Amendment of Tendering Documents

- 7.2 The Addendum will be sent in writing to all prospective Tenderers who have purchased the Tendering Documents and will be binding upon them. Prospective Tenderers shall promptly acknowledge receipt therefore to the Building Manager.

- 7.3 In order to afford prospective Tenderers reasonable time in which to take an Addendum into account in preparing for their Tenders, the Employer may, at his discretion, extend the deadline for the submission of Tenders.
- 7.4 No alterations in the text of the Bills of Quantities shall be made by the Tenderer, unless instructed in writing by the Building Manager. Any unauthorized alteration, amendment, note or additions made to the Bills of Quantities by the Tenderer shall be ignored and only the reading of the printed text will be recognized. If the Tenderer wishes to make an observation as to the printed text in connection with the rates he has inserted, he shall do so in the form of a letter submitted with his Tender.

C. PREPARATION OF TENDERS

8. Language of Tender

- 8.1 The Tender prepared by the Tenderer and all correspondence and documents relating to the Tender exchanged by the Tenderer and the Employer shall be written in the English Language.

9. Documents Comprising Tender

- 9.1 The Tender to be prepared by the Tenderer shall comprise the following: The Form of Tender and Appendix thereto; the Bill of Quantities; and any other addenda and supplementary information required in accordance with the Instructions to Tenderers embodied in these Tendering Documents. The Forms and Bills of Quantities provided in these Tendering Documents shall be used without exception.

10. Tender Prices

- 10.1 Unless stated otherwise in the Tendering Documents, the contract shall be for the whole works described in Section 1, Clause 1 based on the schedule of unit rates and prices submitted by the Tenderer.

10. Tender Prices (cont'd)

- 10.2 The Tenderer shall fill in rates and prices for all items of Works described in the Bills of Quantities, whether quantities are stated or not. Items against which no rate or price is entered by the Tenderer will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bills of Quantities.

11. Currencies of Tender and Payment

- 11.1 The unit rates and prices shall be quoted by the Tenderer entirely in Trinidad and Tobago currency.

12. Tender Validity

- 12.1 Tenders shall remain valid and open for acceptance for a period of 90 days after the date of Tender opening.
- 12.2 In exceptional circumstances, prior to expiry of the original Tender validity period, the Employer may request the Tenderer for a specified extension to the period of validity. The request and the responses thereto shall be made in writing. A Tenderer may refuse the request without forfeiting his Tender security. A Tenderer agreeing to the request will not be required nor permitted to modify his Tender, but will be required to extend the validity of his Tender security correspondingly.

13. Tender Security

- 13.1 The Tenderer shall furnish, as part of his Tender, a Tender Security in the amount of ten (10) percent of the sub –total of the contract.
- 13.2 The Tender security shall, at the Tenderer's option, be in the form of a cash deposit, a certified cheque payable to the Employer, a bank draft, an irrevocable letter of credit or a guarantee from a local bank or a bond issued by an insurance company or a bonding company likewise located in the country of the Employer or otherwise acceptable to the Employer.
- 13.3 The format of the bank guarantee or the bond shall be in accordance with the sample form of Tender security included in these Tendering Documents. Other formats may be permitted, subject to the prior approval of the Employer. Letters of credit, bank guarantees and Tender bonds shall be valid for a period of thirty (30) days beyond the validity of the Tender.

13. Tender Security (cont'd)

- 13.4 Any Tender not accompanied by an acceptable Tender security **shall be rejected** by the Employer as non-responsive.
- 13.5 The Tender securities of unsuccessful Tenderers will be returned as promptly as possible, but not later than forty-five (45) days after expiration of the period of Tender validity prescribed by the Employer.

13.6 The Tender Security of the successful Tenderer will be discharged when the Tenderer, has signed the Agreement and furnished the required performance security.

13.7 The Tender security may be forfeited:-

a) If a Tenderer withdraws his Tender during the period of Tender validity; or

b) In the case of a successful Tenderer, if he fails within the specified time limit to:

i) sign the Agreement, or

ii) furnish the required security.

14. Obtaining Information

14.1 Neglect or failure on the part of the Tenderer to obtain reliable information upon any matters affecting the execution and completion of the works and the contract shall not relieve the Tenderer from any risk or liability for the completion of the Works, nor will any claim for increase of the Contract Price or extension of the Contract Period be allowed as a result of such neglect or failure.

15. Pre-Tender Meeting

15.1 The Tenderer or his official representative is advised to attend a pre-Tender meeting which will be convened at the site of the proposed demolition works at the date and time stated in the letter of invitation to tender.

15.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

15.3 The Tenderer is requested to submit any questions in writing, to reach the Building Manager not later than one week before the meeting.

15. Pre-Tender Meeting

15.4 Minutes of the meeting, including copies of the questions raised and responses given, will be furnished expeditiously to all those attending the meetings (and subsequently to all firms which have received the Tendering Documents). Any modification of the Tendering Documents listed in Sub-clause 6.1 which may become necessary shall be effected by the issuance of an Addendum pursuant to Clause 7, and not through the minutes of the pre-Tender meeting.

16. Format and Signing of Tenders

- 16.1 The Tenderer shall prepare one original and one copy of the documents comprising the Tender as described in Sub-clause 9.1 of these instructions to Tenderers.
- 16.2 The original and copy of the Tender shall be typed or written in ink and shall be signed by a person or persons duly authorized to bind the Tenderer to the Contract.
- 16.3 The complete Tender shall be without alterations, interlineations, or erasures, except those to accord with instructions issued by the Employer, or as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialled by the person or persons signing the Tender.
- 16.4 Only one Tender may be submitted by each Tenderer. No Tenderer or his agents may participate in the Tender or another for the same contract in any relation whatsoever.

D. SUBMISSION OF TENDERS

17. Tender Submission

- 17.1 Tenders must be submitted on the tender form supplied and all documents must be completed in every respect as required. The Form of Tender and priced Bills of Quantities must be submitted in the same envelope and shall be deposited before the stipulated date and time for return of Tenders in the Tender Box as advised in the letter accompanying the Tender Documents.
- 17.2 The Employer may, at his discretion, extend the deadline for submission of Tenders by issuing an amendment in accordance with Clause 7, in which case all rights and obligations of the Employer and the Tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.
- 17.3 The office shall establish a database, to be known as The Procurement Depository, to which suppliers or contractors can submit information with respect to, among other things, their qualifications and experience”.
All bidders must be registered with the Office of the Procurement Regulator (OPR) Procurement Depository in accordance with Section 26 (1) of the Act.

18. Late Tenders

- 18.1 Any Tender received by the Employer after the deadline for submission of the Tenders prescribed by the Employer in accordance with Clause 17 shall be returned unopened to the Tenderer.

E. TENDER OPENING AND EVALUATION

19. Modification and Withdrawal of Tenders

- 19.1 The Tenderer may modify or withdraw his Tender after submission, provided that the modification or notice of withdrawal is received in writing by the Employer prior to the prescribed deadline for submission of Tenders.
- 19.2 Tenderer's modification or notice of withdrawal shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 17 for the submission of Tenders with the envelope additionally marked " MODIFICATION" or "WITHDRAWAL" as appropriate.
- 19.3 Subject to Clause 24, no Tender may be modified subsequent to the deadline for submission of Tenders.

20. Tender Opening

- 20.1 On the date to be finalized the Employer will open the Tenders of Tendering Contractors, including submissions made pursuant to Clause 17, in the presence of Tenderers' representatives who choose to attend at the place as notified by the Employer in the letter accompanying the Tender Documents.
- The Employer will notify Tenderers of the date and time of the Tender opening. The Tenderers' representatives who are present shall sign a register evidencing their attendance.
- 20.2 Tenders for which an acceptable notice of withdrawal has been submitted pursuant to Clause 19 shall not be opened. The Employer will examine Tenders to determine whether they are complete, whether the documents have been properly signed, and whether the Tenders are generally in order.
- 20.3 At Tender opening, the Employer will announce the Tenderers' names, the Tender prices, written notifications of Tender modifications and withdrawals, if any, the presence of the requisite Tender security, and such other details as the Employer may consider appropriate.
- 20.4 Tenderers who fail to submit Legal and Clearance documents i.e. Compliance Certificates for VAT, TAX, and NIS will be considered unresponsive. Tenderers are informed that Failure to include updated/valid statutory documents (VAT, Income Tax Certificate and NIS Certification) in tender packages, at the opening of tender, upon review and pre-screening, your tender submission shall be deemed as invalid and the MOWT shall not

proceed with the evaluation of your tender submission having not met this requirement, in accordance with **Section 29 (3) of the PP&DPP Act of 2015.**

20. Tender Opening (cont'd)

20.5 The Employer shall prepare a record of the results of the Tender opening, including the information disclosed to those present in accordance with Sub-clause 20.3. The record shall be signed by the representatives of the employer and by those representatives of the Tenderers who desire to do so.

21. Process to Be Confidential

21.1 No information relating to the examination, clarification, evaluation and comparison of Tenders, and recommendations concerning the award of contract shall be disclosed to Tenderers and other person or persons not officially concerned with the procedures after the public opening of Tenders and before the announcement of the award to the successful Tenderer.

21.2 Any effort by a Tenderer to influence the Employer in the process of examination, clarification, evaluation and comparison of Tenders, and in decisions concerning award of contract, shall result in the rejection of the Tenderer's Tender.

22. Clarification of Tenders

22.1 To assist in the examination, evaluation and comparison of Tenders, the Employer may ask Tenderers individually for clarification of their Tenders, including breakdowns of unit rates. The request for clarification and the response shall be in writing, but no change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the correctness of arithmetic errors discovered by the Employer during the evaluation of the Tenders in accordance with Clause 25.

23. Determination of Responsiveness

23.1 Following the opening of Tenders the Employer shall ascertain whether material errors in computation have been made in the Tenders, whether the required guarantees and sureties have been provided, whether the documents have been properly signed, whether the Tenders are substantially responsive to the Tendering documents and whether the Tenders are otherwise generally in order.

23. Determination of Responsiveness (cont'd)

23.2 For the purpose of this Clause, a substantially responsive Tender is one which conforms to *all* the terms, conditions and specifications of the Tendering Documents without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way, the scope, quality, or performance of the Works or which limits in any substantial way, inconsistent with the Tendering Documents, the Employer's rights or the Tenderer's obligations under the Contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.

23.4 If a Tender does not conform to the specification or is not otherwise substantially responsive, it shall be rejected by the Employer, and shall not subsequently be made responsive by the Tenderer having corrected or withdrawn the non-conforming deviation or reservation.

24. Correction of Errors

24.1 Tenders determined to be substantially responsive will be checked by the Employer for any arithmetic error in computation and summation. Errors will be corrected by the Employer as follows:-

- (a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
- (b) Significant arithmetical errors or obvious errors in pricing discovered in the Tenderer's priced Bills of Quantities will be dealt with as described herein. The Tenderer will be informed of the amount and nature of the errors and asked if he wishes to stand by his Tender or to withdraw.

If the Tenderer elects to stand by his Tender, for the purpose of administering the contract and for interim payments and the settlement of accounts, an endorsement, signed by both parties to the contract, will be added to the priced Bills of Quantities indicating that all rates or prices

(excluding preliminary items, prime cost and provisional sums) inserted therein by the Tenderer are to be considered as reduced or increased in the same proportion as the corrected total of priced items exceeds or falls short of the original total of such items.

24. Correction of Errors (cont'd)

Alternatively, by agreement with the Tenderer, the total net error shall be added to or deducted from the total shown against Preliminaries, so that the

sum tendered remains the same, and the endorsement signed by both parties to the contract will be added to the priced Bills of Quantities. If the Tenderer does not accept the corrected amounts, his Tender shall be rejected and the Tender security forfeited.

- (c) Where errors are discovered after acceptance of the Tender, the errors will be adjusted by either of the foregoing methods as the Tenderer would be deemed to have stood by his Tender.

The Contractor shall not alter or otherwise qualify the text of these Bills of Quantities. Any alteration or qualification made without the written approval of the Building Manager shall be ignored and the text of the Bills of Quantities as printed shall be adhered to.

- (d) Where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit rate and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which event the total amount as quoted will govern and the unit rate will be corrected.

25. Evaluation and Comparison of Tenders

25.1 The Employer will evaluate and compare only Tenders determined to be substantially responsive to the requirements of the Tendering Documents in accordance with Clause 24.

25.2 The Employer reserves the right to accept or reject any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the Tendering Documents or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in the Tender evaluation.

25.3 Any Tender which in the opinion of the Employer is so unbalance between various unit prices in the Bills of Quantities as to be detrimental to the interest of the Employer shall be rejected.

25.4. Evaluation criteria

The criterion is reflected in the Tender Document formulated by the Engineering personnel of the Division. The evaluation and award will be made considering the tenderers capability to undertake the Works and the price.

The first stage of the evaluation process will be the Technical Evaluation where the

Evaluation Committee will assess the tenderer’s capability to undertake the Works. The following marking system will be used:

No.	Technical Evaluation Criteria	Maximum Score
i.	Organization Structure and Relevant Work Experience	30 Points
ii.	Technical Capability	20 Points
iii.	Financial Capability	15 Points
iv.	Methodology: Execution of the Works (<i>10pts</i>) Safety (<i>15pts</i>) Environmental (<i>5pts</i>)	30 Points
v.	Schedule of Works	5 Points
Total		100
Minimum Total Qualifying Score required		60

The tenderer must submit adequate evidence to support each of the criterion listed above.

Tenderers are also required to obtain at least fifty per cent (50%) of the allocated points in each of Categories (i) to (v) and attain at least sixty per cent (60%) Total overall in the Technical

Evaluation to move on to the Financial Evaluation.

In relation to the Technical Evaluation, consideration will be given to the following:

(i) Organization Structure and Relevant Work Experience –

A brief description or profile of the Company together with a general Organizational Chart showing a structure capable of supporting the needs of the project (Schedule 4).

List of projects of a similar nature performed previously along with references. The information provided on each assignment should indicate the nature of the Contract, the Contract amount and the name of the Employer and contact information (Schedule 7).

(ii) Technical Capacity - Names of proposed Key Personnel, qualifications, work experience and other relevant information shall be filled out and submitted. Personnel submitted must have experience in works of a similar nature to the project under consideration. The relevant Schedule must be signed and dated by the person named therein (Schedule 5).

(iii) Financial Capability - A letter from a Bank or other Financial Institution attesting to the Tenderer's financial capability (Schedule 6).

(iv) Methodology - A detailed narrative indicating the Tenderer's approach to executing the works. Project specific Health, Safety and Environmental considerations should also be presented here (Schedule 9).

(v) Schedule of Works - Detailed proposed schedule of works showing overall project duration and listing all key items of work described in the Bill of Quantities. All activities on the Gantt chart must be linked and the Chart must be legible (Schedule 10).

25. Evaluation and Comparison of Tenders (cont'd)

25.5 For a Tender to be complete the Tenderer shall fill in all schedules and subsidiary information which will be taken into consideration in the evaluation of a Tender and failure to complete all documents as required may render the Tender non responsive.

F. AWARD OF CONTRACT

26. Award Criteria

26.1 Subject to Clause 28, the Employer will award the contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tendering documents and who has offered the lowest evaluated Tender Price pursuant to Clause 26 but not necessarily the lowest submitted price, provided that the Tenderer has the capacity and the resources to carry out the Contract effectively.

27. Employer's Right to Accept Any Tender and to Reject Any or All Tenders

27.1 Notwithstanding Clause 26, the Employer reserves the right to accept or reject any Tender, and to annul the Tendering process and reject Tenders, at any time prior to award of contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the grounds for the Employer's action.

27.2 The Employer is not obligated to accept the lowest or any Tender. The Employer may declare the Tendering void when none of the Tenders meet the intent of the specifications or when it is evident that there has been a lack of competition and/or that there has been collusion. In addition, all Tenders may be rejected if they are substantially higher than the official budget approved by the Employer. The award will be made to the Tenderer whose Tender has been evaluated as the lowest in accordance with Clauses 25 and 26 – except when intervening circumstances have changed the Tenderer's status. Individual Tenders may be rejected in cases where the particular Tender is so much lower than the official estimate that it is reasonable to conclude that the Tenderer will not be able to complete the works within the specified time and at the price offered.

28. Notification of Award

28.1 Prior to the expiration of the period of Tender validity prescribed by the Employer, the Employer will notify the successful Tenderer in writing by registered letter that his Tender has been accepted. This letter (hereinafter called "Letter of Acceptance") shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion and maintenance of the works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Sum").

28.2 The notification of award will constitute the formation of the Contract.

28.3 Upon the furnishing by the successful Tenderer of a performance security in accordance with the provisions of Clause 30, the Employer will promptly notify each unsuccessful Tenderer.

29. Signing of Agreement

- 29.1 At the same time that he notifies the successful Tenderer that his Tender has been accepted, the Employer will send that Tenderer the Form of Agreement provided in the Tendering Documents, incorporating all agreements between the parties.
- 29.2 Within 28 days of delivery of the Form of Agreement, and upon the furnishing of the performance security in accordance with Clause 30, the successful Tenderer shall sign the Form of Agreement and deliver it to the Employer.

30. Performance Security

- 30.1 Within 14 days of receipt of the notification of award from the Employer, the successful Tenderer shall furnish to the Employer a performance security in the form of a bank guarantee in an amount of ten (10%) percent of the Contract Price or (at the Tenderer's option) a performance bond in an amount of ten percent (10%) of the Contract Price in accordance with the Conditions of Contract. The forms of performance security provided in the Appendix of the Tendering Documents shall be used.
- 30.2 If the performance security is to be provided by the successful Tenderer in the form of a bank guarantee, it shall be issued either (a) at the Tenderer's option, by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b) with the agreement of the Employer directly by a foreign bank acceptable to the Employer.

30. Performance Security (cont'd)

- 30.3 If the performance security is to be provided by the successful Tenderer in the form of a bond, it shall be issued by a bonding or insurance company acceptable to the Employer.
- 30.4 Failure of the successful Tenderer to comply with the requirements of Clause 29 or Clause 30 shall constitute sufficient grounds for the annulment of the award.

F. EXISTING CONDITIONS

31. Schedule of Existing Conditions

- 31.1 Before commencement of the Contract, a Schedule of Conditions of all areas surrounding the work site shall be agreed between the Building Manager and the Contractor. On

completion of the Contract, the Contractor shall reinstate these areas to their original condition.

32 Adjoining Property

- 32.1 The Contractor shall take care in carrying out any part of the work in proximity to, or affecting adjoining property. He shall endeavour to obtain the consent and approval of the adjoining owners and occupiers for entering upon their land and carrying out any work which affects their property and shall not enter upon the land or carry out such work until their consent has been obtained.

CONTENTS

PAGE

SECTION 1	-	BILLS OF QUANTITIES:	
BILL NO. 1	-	PRELIMINARIES/GENERAL CONDITIONS	1/1
BILL NO. 2	-	SPECIFICATIONS	2/1
BILL NO. 3	-	WORKS TO BE DONE	3/1
BILL NO. 4	-	DAYWORKS	4/1
		GENERAL SUMMARY	5/1
SECTION 2	-	LIST OF PROVISIONAL SUMS	
SECTION 3	-	DRAWINGS	
SECTION 4	-	<u>APPENDICES</u>	
	-	ALLOWANCES IN RATES	A/1
	-	FORM OF TENDER	B/1
	-	FORM OF AGREEMENT	C/1
	-	FORM OF PERFORMANCE SECURITY	D/1
	-	FORM OF ADVANCE PAYMENT SECURITY	E/1
	-	SUPPLEMENTARY INFORMATION & SCHEDULES	F/1

SECTION 1
BILLS OF QUANTITIES

BILL NO 1

PRELIMINARIES AND GENERAL CONDITIONS

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

NAMES OF PARTIES

The names and addresses of the parties used in connection with this project shall be as follows: -

Employer : Permanent Secretary
Ministry of Works and Transport
2 – 4 London Street
Port of Spain

Authorised Person : Director of Construction
Ministry of Works and Transport
Level 3 East, Head Office Building
2 – 4 London Street
Port of Spain
Telephone: 623-1223

Employer's Representative: Building Manager, Building Branch
Ministry of Works and Transport
Level 3 East, Head Office Building
2 – 4 London Street
Port of Spain
Telephone: 625-3022

or any other person or persons authorized to act on their behalf.

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

GENERALLY

- A The Contractor shall be deemed to have included for all costs and expenses involved in the following Preliminaries Clauses whether or not they have been priced.

DESCRIPTION OF THE WORKS

- B The proposed works comprise the supply and installation of a modular medium security wire fence system on the eastern side and the construction of an external block wall on the southern side of the MOWT Guaico Complex and includes the following:
 - i. Demolition of an existing chain link fence including concrete structure abutting the chain link fence and making good all disturbances to the existing ground surface. Removal of any debris from the demolition to the nearest approved landfill.
 - ii. Sub-structure works including excavation, piling and construction of reinforced concrete ground beam, blockwork and stub columns to support both the medium security wire fence system and block wall fence.
 - iii. Supply and installation of a medium security wire fence system comprising fence post; panels; razor wire inclusive of razor wire support arm and an apron for maintenance purposes.

DESCRIPTION OF SITE

Location of Site

- C The site of the proposed work is situated at the Ministry of Works and Transport, Guaico Complex, Guaico.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Access to Site

- A The Contractor is to visit the site and ascertain from the Employer's Representative the most convenient form of site access and egress. He is to allow here or in his rates for complying with any restrictions or conditions that may be imposed by the Employer or other authorities on the unloading, loading or parking of lorries and other vehicles and mobile plant.

Site visits can be arranged with the Employer's Representative, Telephone No. 623-1223 ext. 10446.

Possession of Site

- B To be agreed on Award of Contract. Storage of materials, plant, tools and equipment, must be located in consultation with the Employer's Representative or an approved representative.

Site Restrictions

- C The Contractor is hereby notified that he should confine himself to the work area as defined by the Employer and entering prohibited areas and jay walking on the site is prohibited and he shall take full responsibility in notifying his employees and that this directive is strictly adhered to. Failure to comply with the above directive may result in prosecution by law.

Trespass

- D The Contractor shall take all steps to prevent any trespass by unauthorized persons on the site of the Works and any trespass on the adjoining properties by own employees or those of sub-contractors on the site and indemnify the Employer against any claims, costs of proceedings whatsoever arising out of any trespass or alleged trespass.

Claims

- E No claims which are attributable to any neglect on the part of the Contractor for any of the foregoing viz: site conditions, soil or access to site, will be entertained.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Tenders

- A The following documents have been sent to the Contractor for the purpose of tendering:-
- (a) Letter of Invitation to Tender
 - (b) Bills of Quantities
 - (c) Form of Tender
 - (d) Contract Drawings (one set)
- B Whilst every care has been taken to ensure accuracy, the Contractor is required to ascertain that all these documents have been received by the Contractor. The Contractor is also required to make certain that the Bills of Quantities are complete and immediately inform the Employer if any page is missing or alternatively if pages are repeated, or if any typing is indistinct or omitted or any other errors.
- C Failure to comply with these requirements will invalidate any subsequent claim made by the Contractor and consequent upon this clause.
- D One copy of the Bills of Quantities as issued, to be returned, on or before the closing date of tender, completed all in accordance with the instructions contained in the letter of invitation to tender.
- E The tender is to be submitted on the prescribed form, which must be completed in full. The Employer does not bind himself to accept the lowest or any tender.

Tendering Information

- F Tenders are invited for these works in open competition on the basis of the information contained in the Articles of Agreement and the Conditions of Contract, Drawings and Bills of Quantities, which together comprise the tender documents.
- G The Contractor shall allow in his tender for all the provisions in these documents and for the purpose of tendering only, in the case of any divergence, the information contained in these Drawings, shall take precedence over that shown in the Bills of Quantities.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Dimensions

- A Figured dimensions shall be allowed preference to measurement by scale and large scale drawings in preference to small. The figures given are intended to show exact dimensions for the works. It shall be the duty of the Contractor to verify all dimensions given on the drawings and to report any error of inconsistency to the Employer’s Representative before commencing work.

Detailed Instructions

- B The Employer shall furnish additional instructions by means of drawings or otherwise, necessary for the proper execution of the work, all such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable therefrom. All work shall be executed in conformity with these additional instructions and no work shall be executed without proper drawings and instructions.
- C The Employer shall have the right to make minor changes in the work not involving extra cost and in such cases will issue revised drawings and instructions with all the necessary promptness.

Drawings for Consultants

- D One set of drawings including revised drawings and of all other documents including Bills of Quantities (unpriced) shall be kept on site for the sole use of Consultants.
- E Drawings shall be kept flat and in the order directed by the Employer’s Representative and protected from light. Other documents shall be stored in a closed cupboard or drawer.
- F All documents shall be kept up to date.
- G All drawings and documents required by this clause will be supplied to the Contractor free of charge.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Queries

- A All queries shall be settled ten (10) days before the submission of tender. Queries on the drawings and details are to be directed to the Employer.

Errors

- B Any correction of errors in the tender shall be dealt with in accordance with alternative two(2) of the Code Procedure for Selective Tendering which states:-

“The tenderer should be given an opportunity of confirming his offer or of amending it to correct genuine errors. Should he elect to amend his offer with the result that the revised tender is no longer the lowest or best value tender, the offer that becomes the lowest or best value should be examined.

- C If the tenderer elects not to amend his offer, an endorsement should be added to the priced documents prior to acceptance indicating that all the rates or prices in those documents (excluding preliminary items, contingencies, prime cost sums and provisional sums) are to be considered as reduced or increased in the same proportion as the corrected total of priced items exceeds or falls short of his offer price (again excluding the items contingencies and sums mentioned above) The endorsement should be signed by both parties.”

- D No alterations, modifications, additions or omissions, adjustment note or qualification to the text of this document shall be recognized or taken into account and could lead to a disqualification of the tender. Any comments or observations can form the subject of a separate letter to accompany the tender.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

A Time

Time is of the essence in this Contract so that the agreed date of completion must be adhered to.

Pricing of Items

B The Contractor shall price this Bill of Quantities by inserting in INK lump sum monies in the money column opposite the description of the item in every section of this entire document which he considers priceable and carrying the page totals forward as instructed to the Final collection for a Tender Sum. For any price omitted it will be deemed either the Contractor will perform the service free of charge or that the cost of such service has been included in rates inserted against items appearing elsewhere in this document.

Bills of Quantities

C The Bills of Quantities have been prepared in imperial. No alterations shall be made to the text of the Bills of Quantities, except on the written instructions of the Employer.

D The works are not measured strictly in accordance with the principles of the Standard Method of Measurement of Building Works.

Rates to be Inclusive

E The rates inserted by the Contractor against items in this document shall be deemed to include for the provision of all supervision, labour, materials, plant, transport for delivery to site (where not specifically mentioned in the description), temporary storage of materials and return of empties, the erection, maintenance and removal of scaffolding, temporary staging, plankways, protection, profits and overheads and all other things in accordance with the drawings, and Bills of Quantities, to the reasonable satisfaction of the Employer.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Fluctuations

A The Contract will be a firm price contract.

Adjustments in the contract price shall not be made for fluctuations in prices of labour, materials, plant, transport or other cost which affect the carrying out of these works.

Specification

B Read the Drawings and Bills of Quantities as one document. Everything necessary for the proper execution of the works should be done whether or not specifically shown on the Drawings or stated in the Bills of Quantities as long as it may be reasonably inferred therefrom.

Generally

C All reference to "approved", "directed" or "selected" shall mean the approval, direction and selection of the Employer's Representative or Consulting Engineer as is appropriate to the particular item.

D Wherever the terms "allow", "provide" or "make allowance" occur, the cost of the item or items concerned is at the risk of the Contractor and shall be included in the lump sum tender with the exception of the Provisional Sums.

E The words "best" and "first" shall be used in their ordinary English sense, notwithstanding any trade custom to the contrary.

F The word "local" shall apply to conditions and materials in Trinidad and Tobago.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

A Form of Agreement and Conditions of Contract

The Agreement and Schedule of Conditions of Contract will be the Federation Internationale des Ingenieurs-Conseils/International Federation of Consulting Engineers (FIDIC) Short Form of Contract First Edition 1999-General Conditions and Particular Conditions - Amended Clauses as detailed in the pages following. The Tender price shall be deemed to cover all the implications contained therein and set out below and also cover for the specific information included in the Appendix to the Form of Tender.

A copy of which may be inspected at the Building Manager's Office, Level 3, Ministry of Works and Transport, Head Office Building, 2 - 4 London Street, Port of Spain, by appointment during normal working hours.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Schedule of Clause Headings

The following is a list of the Clauses in the Schedule of the Conditions of the Contract and Particular Conditions for which the Contractor is to make allowances in his tender:-

CLAUSE NR.

- 1 GENERAL PROVISIONS
 - 1.1 Definitions
 - The Contract
 - Persons
 - Dates, Times and Periods
 - Money and Payments
 - Other Definitions
 - 1.2 Interpretation
 - 1.3 Priority of Documents
 - 1.4 Law
 - 1.5 Communications
 - 1.6 Statutory Obligations
- 2 THE EMPLOYER
 - 2.1 Provision of Site
 - 2.2 Permits and Licenses
 - 2.3 Employer's Instructions
 - 2.4 Approvals
- 3 EMPLOYER'S REPRESENTATIVES
 - 3.1 Authorised Person
 - 3.2 Employer's Representative
- 4 THE CONTRACTOR
 - 4.1 General Obligations
 - 4.2 Contractor's Representative
 - 4.3 Subcontracting
 - 4.4 Performance Security

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

CLAUSE NR. (CONT'D)

- 5 DESIGN BY CONTRACTOR
 - 5.1 Contractor's Design
 - 5.2 Responsibility for Design
- 6 EMPLOYER'S LIABILITIES
 - 6.1 Employer's Liabilities
- 7 TIME FOR COMPLETION
 - 7.1 Execution of the Works
 - 7.2 Programme
 - 7.3 Extension of Time
 - 7.4 Late Completion
- 8 TAKING-OVER
 - 8.1 Completion
 - 8.2 Taking-Over Notice
- 9 REMEDYING DEFECTS
 - 9.1 Remedying Defects
 - 9.2 Uncovering and Testing
- 10 VARIATIONS AND CLAIMS
 - 10.1 Right to Vary
 - 10.2 Valuation of Variations
 - 10.3 Early Warning
 - 10.4 Right to Claim
 - 10.5 Variation and Claim Procedure

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

CLAUSE NR. (CONT'D)

- 11 CONTRACT PRICE AND PAYMENT
 - 11.1 Valuation of the Works
 - 11.2 Monthly Statements
 - 11.3 Interim Payments
 - 11.4 Payment of First Half of Retention
 - 11.5 Payment of Second Half of Retention
 - 11.6 Final Payment
 - 11.7 Currency
 - 11.8 Delayed Payment

- 12 DEFAULT
 - 12.1 Default by Contractor
 - 12.2 Default by Employer
 - 12.3 Insolvency
 - 12.4 Payment upon Termination

- 13 RISK AND RESPONSIBILITY
 - 13.1 Contractor's Care of the Works
 - 13.2 Force Majeure

- 14 INSURANCE
 - 14.1 Extent of Cover
 - 14.2 Arrangements
 - 14.3 Failure to Insure

- 15 RESOLUTION OF DISPUTES
 - 15.1 Adjudication
 - 15.2 Notice of Dissatisfaction
 - 15.3 Arbitration

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Appendix to Form of Tender

This Appendix forms part of the Agreement.

[Note: with the exception of the items for which the Employers requirements have been inserted, the Contractor shall complete the following information before submitting his offer]

Item	Sub-Clause	Data
Documents forming the Contract listed in the order of priority	1.1.1	
Document		Document Identification
(a) The Agreement		_____
(b) Particular Conditions		_____
(c) General Conditions		_____
(d) The Bills		_____
(e) The Drawings		_____
(f) The Specifications		_____
Time for Completion	1.1.9	Three (3) Months upon signing of contract
Law of the Contract	1.4	Law of the Republic of Trinidad and Tobago

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Appendix to form of tender (cont'd)

Item	Sub-Clause	Data
Language	1.5	English
Provision of Site	2.1	To be agreed
Authorised Person	3.1	As indicated
Name and Address of Employer's Representative (if known)	3.2	As indicated
Performance Security (if any)		
Amount	4.4	10% of Tender Sum
Form	4.4	As per Appendix D
Advance Payment Security (if any)		
Amount		30% of Tender Sum
Form		As per Appendix E
Requirements for Contractor's Design (if any)	5.1	NA

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Appendix to form of tender (cont'd)

Item	Sub-Clause	Data
Programme :		
Time for Submission	7.2	Within five (5) days of the Commencement Date
Form of Programme	7.2	Microsoft Project Gantt Chart (Electronic and Hard Copy)
Amount payable due to to a failure to complete	7.4	\$1,000.00(TT\$) per day up maximum of 10% of Sum stated in Agreement
Period for notifying defects	9.1 & 11.5	365 days calculated from the date stated in the Notice under Sub Clause 8.2
Variation Procedure		
Day work Rates	10.2	Bill No. 4
Valuation of the Works		
Re-measurement with Tender Bill of Quantities	11.1	Bill No. 3
Total Advance Payment	11.1.1	30% of the Amount stated in the Agreement payable in Trinidad & Tobago Dollars (\$TTD)
Repayment amortization rate of advance payment	11.1.2	1 st month - 50% 2 nd month - 40% 3 rd month - 10%

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Appendix to form of tender (cont'd)

Item	Sub-Clause	Data
Percentage of Value of		
Materials and Plant	11.2	Materials_100% Plant___0%
Percentage of Retention	11.3	10%
Currency of Payment	11.7	Trinidad and Tobago \$
Rate of Interest	11.8	NA
Insurances	14.1	
Type of Cover	Amount of Cover	Exclusions
The Works, Materials, Plant and Fees	The Sum stated in the Agreement plus 15%	
Contractor's Equipment	Full Replacement Cost	_____
Third Party Injury to Persons and Damage to Property	\$1,000,000.00 per occurrence	_____
Workers	_____	_____
Other Cover	_____	_____
Arbitration		
Rules	15.3	UNCITRAL Arbitration Rules
Appointing Authority	15.3	President of APETT or his nominee
Place of Arbitration	15.3	Republic of Trinidad and Tobago

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

PARTICULAR CONDITIONS

The following are the Particular Conditions applicable to the Contract. The prices in the Bills of Quantities shall be deemed to cover the amended clauses set forth below.

Clause 1.1.18 Variation Definition

- A Include the words "*and as instructed by the Employer's Representative subject to Sub - Clause 10.6*" at the end of sentence.

Clause 1.1.20 Provisional Sums Definition

- B Insert new Sub-Clause 1.1.20 Provisional Sums.

"Provisional Sum" means a sum (if any) which is specified in the Contract as a Provisional Sum, for the execution of any part of the Works or for the supply of Plant, Materials or Services under Sub-Clause 10.6 [*Provisional Sums*].

Clause 3.2 Employer's Representative

- C Replace the final sentence of Sub-Clause 3.2 with the following: -

"The Employer's Representative shall exercise in a fair and impartial manner the powers of the Employer under or in connection with the following Sub-Clauses: 1.3, 2.3, 4.2, 4.3, 5.1, 7.3, 8.2, 9.1, 9.2, 10.1, 10.2, 10.5, 11.1 to 11.6, 11.8, 12.1, 13.2 and 14.1."

Clause 10 - Variations and Claims

Insert new Sub-Clause 10.6 - Provisional Sums

- A Each Provisional Sums shall only be used, in whole or in part, in accordance with The Employer's instructions and the Sum state in the agreement shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Employer shall have instructed. For each Provisional Sum, the Employer may instruct:

- (a) work to be executed (including Plant, Materials or Services to be supplied) by the Contractor and valued under Sub-Clause 10.2 [*Valuation of Variations*].

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

PARTICULAR CONDITIONS

Clause 11 - Contract Price and Payment

A Insert new Sub Clause 11.1.1 Advance Payment Security

The Employer shall make an advance payment, as an interest-free loan for mobilization and cash flow support, when the Contractor submits a guarantee in accordance with the Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and portions shall be as stated in the Appendix to the Form of Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix, this Sub-Clause shall not apply.

The Employer shall deliver to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 11.2[Monthly Statement]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.4 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Monthly Statements. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

PARTICULAR CONDITIONS

Clause 11 - Contract Price and Payment

Insert new Sub Clause 11.1.1 Advance Payment Security (Cont'd)

A Unless stated otherwise in the Appendix, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Employer in accordance with Sub-Clause 11.3[Interim Payments] as follows:

- (a) deductions shall commence in the next interim payment certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 10 percent (10%) of the Sum stated in the Agreement less Provisional Sums; and
- (b) deductions shall be made at the amortization rate stated in the Appendix of the amount of each interim payment Certificate excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Sum stated in the Agreement less Provisional Sums has been certified for payment.

If the advance payment has not been repaid prior to the issue of the Taking – Over Certificate for the Works or prior to termination under Clause 12 [Default], Sub- Clause 13.2 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

Insert new Sub Clause 11.1.2 Repayment Amortization Rate of Advance Payment

B Within 28 days of delivery of each statement, the Employer shall pay to the Contractor the amount shown in the Contractor's statement less retention at the rate stated in the Appendix any amount to be added for the advance payment (if more than one instalment) and to be deducted for its repayment in accordance with Sub-Clause 11.1.1 (Advance Payment).

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

PARTICULAR CONDITIONS

Clause -11.9 Value Added Tax (V.A.T.)

- A Insert new sub-clause 11.9
- (a) Value Added Tax shall mean any tax payable under the Value Added Tax Act No. 37 of 1989 or any amendment or enactment thereof.
 - (b) Value Added tax shall be paid in accordance with the procedures in the Value Added Tax Act No. 37 of 1989 or any amendment or re-enactment thereof.
 - (c) Any reference in the Conditions to 'Contract Price' shall be regarded as such sum exclusive of V.A.T.
 - (d) To the extent that after the Date of Tender, the supply of goods and services to the Employer becomes exempt from the tax there shall be paid to the Contractor an amount equal to the loss of credit (import tax) on the supply to the Contractor of goods and services which contribute exclusively to the Works.
 - (e) The total sum tendered shall be deemed to be inclusive of V.A.T. at the rate prevailing at the Date of Tender.

All rates inserted in the Contract Documents shall be deemed to be exclusive of V.A.T. except where otherwise specified.

Clause 14 - Insurance

14.1 Extent of Cover

- B Insert new sub-clause 14.1 d
For material stored off-site for which payment is required.

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Performance Security

- A The Contractor will be required upon signing the Contract to provide a Bond for the due performance of the Contract in a sum equivalent to ten percent (10%) of the Contract sum. The Bond shall be in the form in "Appendix D". The surety is required to complete the relevant "FORM OF BOND" Section.

Advance Payment Security

- B The Contractor shall allow for furnishing a bond in the sum of thirty (30%) of the tender figure for the construction mobilization and cash flow support pay all financing charges in connection therewith. Ensure the surety duly completes the relevant part of the Form of Tender. A Specimen Form of Advance Payment Security (Appendix E) is attached as a guide to the type of instrument which must be executed on the award of contract.

Ordering of Materials

- C The Contractor's attention is drawn to the fact that the Bills of Quantities must not be used as a materials ordering list. He is to prepare his own ordering list based on the construction drawings issued and on site measurements where appropriate.

Guarantees

- D The Contractor shall be responsible for the safe keeping of all guarantees, warranties, etc. on materials, equipment, appliances and/or workmanship supplied or executed under this contract and for assigning and handling them over to the Employer at completion of the works.
- E All guarantees and warranties shall commence to run from the date of Practical Completion.

Reports

- F The Contractor is to deliver daily to the Employer's Representative a report as to the number of work people employed on the works in each trade and delivery notes of all goods and materials delivered to the site.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Access to Works

- A The Contractor is to allow for providing at all times during the execution of the works and the defects liability period proper means of access, with ladders, gangway, etc., and the necessary attendance to move and adapt same as directed, for the inspection or measurement of the works by the Employer's Representative, Employer's Consultants or their representative.

Record of Drawings

- B The Contractor must prepare and keep accurate records, in a form acceptable to the Employer, of the position of and routing of all services internally and externally, whether executed by workmen or others, deliver in duplicate fully detailed drawings to the Employer's Representative not later than ten (10) days after completion of the particular installation.

National Insurance

- C The Contractor shall comply with all ordinances and regulations regarding the payment of contributions for National Insurance etc. for employees.

Government and Local Ordinances Etc.

- D The Contractor shall allow for compliance with all Government and Local Ordinance orders, rules and regulations in so far as is not provided elsewhere in this document.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Fringe Benefits

- A Allow for all costs in respect of National Insurance, Vacation and Public Holiday Leave, Sick Leave, Cost of Living Allowance, Subsistence Allowance, Traveling Time and Expenses and all other Emoluments and Expenses payable to or in connection with the employment of persons for the Works.
- B Comply with all local regulations in force relating to the welfare of the work people on the site or in places where work is being prepared for the incorporation into the Works and keep and maintain, at all times, an adequate First Aid Set upon the site.

Overtime

- C No work is to be executed outside stipulated working hours without the prior consent and/or approval of the Employer's Representative. Should the working of overtime be necessary in order to complete the works by the date agreed, no extra will be allowed for same except as permitted by the Conditions of Contract.

Insurances Generally

- D All insurances required for the works shall be placed with an Insurance Company acceptable to the Employer. Such insurances shall include but are not limited to the following:-
- (a) INSURANCES as Clause 14 of the Conditions.
 - (b) WORKMEN'S COMPENSATION INSURANCES.
(See Preliminaries below).
 - (c) INSURANCE OF PLANT, ETC.
(See Preliminaries below).

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Insurance – Injury to Property

- A The Contractor shall pay for and maintain through the duration of this contract, Public Liability Insurance to cover against injury or damage to property real or personal with maximum limit of \$1,000,000.00 for each claim.

Insurance – Injury to Workpeople

- B The Contractor is to allow for and make all payments in respect of Workmen’s Compensation, Insurance of workpeople and site staff and allow for all costs and expenses in connection therewith.

Insurance – Plant, Etc.

- C The Contractor shall insure to the full value thereof all temporary buildings, plant, tools and equipment brought to and deposited on site and owned and or hired by the Contractor or any Sub-Contractor against loss or damage by fire and theft.

Other Property Insurance

- D Allow for Insurances against damage to any property other than the works as required by the Conditions of Contract.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Control of Workers

- A Ensure that, except in connection with the execution of the works, all persons under the main Contractor’s control (including Sub-Contractor) are kept within the boundaries of the site and the Contractor shall be responsible for any trespass or damage to property by persons who are under his control. The Employer shall reserve the right to demand the dismissal of the employee(s) who willfully infringes this stipulation.

- B The attention of the Contractor is drawn to the fact that these facilities will be fully functional during refurbishment of the roof. Every effort should be taken to avoid disruption to the activities and/or the possibility of injury to users of the adjacent facilities.

Dismissal of Employees

- C The Contractor shall, within 48 hours of the receipt of written instructions from the Employer’s Representative, dismiss from the site any worker who in the opinion of the Employer is incompetent or insubordinate and shall immediately substitute other and bear all costs in connection therewith.

Sub-Letting

- D The Contractor shall remain responsible for all work, which is authorized by the Employer to be sublet.

Labour

- E Provide as necessary, all skilled, semi-skilled and unskilled labour for the execution and completion of the works.

- F Workmanship is to be of the best quality throughout, to the reasonable satisfaction of the Employer's Representative.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$ ¢

Availability of Labour

- A Ensure all labour will be available for the works and allow in the tender for the additional cost of any importation of labour from other districts that may be deemed necessary. No subsequent claim for additional cost arising from any importation of labour will be considered and the Contractor will be deemed to have made full allowances in his tender for this contingency.

Person-in-Charge

- B Provide a competent person-in-charge approved by the Employer and all other site staff deemed necessary for the proper supervision and adequate progress of the works. The person-in-charge shall be on the site throughout working hours.

Samples

- C Allow for submitting samples for the Employer’s Representative and approval of any materials proposed to be used in the works.

Testing Materials

- D The Contractor shall meet all charges and expenses in connection with the testing of any materials in the work as may be required by the Engineer. If any test shows that materials on executed work are not in accordance with the Contract, the cost of such test shall be borne by the Contractor and shall not be set off against the Provisional Sum.

- E Allow the Provisional Sum of \$10,000.00 for testing of materials and executed works.

10,000.00

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Materials and Workmanship

- A Materials and Workmanship are to be of the best quality of their respective kinds and those for which there is a British Standard or American Code of Practice, are to conform thereto unless otherwise stated.

Defective Work

- B Any defective materials or substandard workmanship not in accordance with this contract shall be removed and replaced without charge.

Plant, Tools and Vehicle

- C Provide and install all necessary hoists, ladders, tools and other plant and vehicles and allow for altering, adapting and maintaining them as necessary and removed and replaced without charge.

General Scaffolding

- D Provide and install all necessary hoists, ladders, tools and other plant and vehicles and allow for altering, adapting and maintaining them as necessary and removed when no longer required.
- E Re-erect at own expense, if so required any scaffolding which has been struck before ascertaining whether it is required by any Sub-Contractor.
- F Include the Provisional Sum of \$50,000.00 to construct and dismantle all scaffolding for the proper execution and completion of the works including altering, shifting and adapting from time to time as necessary.

50,000 00

Transport

- G Provide all necessary transport for labour, materials, plant, tools and equipment.



MOWT GUAICO COMPLEX - SECURITY FENCING

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Water

- A Provide water for the Works including that for sub-contractors and specialists, at the various levels and positions where required including all necessary sumps, temporary plumbing and storage and pay all charges for drawing water off mains supply.

Temporary Lighting and Power

- B The Contractor shall be responsible for all artificial lighting and power for the works, making all temporary installations for distribution about the site and for lighting for security purposes, hoardings etc. at all times.

Temporary Buildings

- C All temporary buildings, storage areas etc. are to be situated in approved positions.
- D The Contractor shall provide, maintain and erect sheds, other temporary buildings for offices, storage and protection of materials and plant as required for his agent and workmen.
- E The Contractor shall provide and maintain all necessary sanitary accommodation for all operatives and site staff in accordance with the requirements of the Sanitary Authority.
- F The Contractor is to provide daily attendance on all the foregoing to keep them clean and keep the surroundings tidy.
- G On completion of the works, the Contractor is to remove all temporary buildings, fences, sheds, etc., restore ground, and deodorize as necessary.
- H The Contractor shall pay all rates and taxes on all temporary buildings erected as required by the appropriate Authority.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Works Protection

- A The Contractor shall take such steps as are necessary to protect all work from the effects of the weather and to keep free of water from any source at all times.
- B The Contractor shall make good to the satisfaction of the Employer's and the Local Authority all damage to Public and or Private property, roads, footpaths, drains and culverts that may be caused during the execution of the works and pay all charges arising therefrom.

Watching

- C Provide all necessary day and night watching and take all necessary measures for the protection of the works with temporary hoarding and pay all fees and charges in connection therewith and take all risks for damages or loss by theft.

Trespass

- D Prevent any trespass by unauthorized persons on the site of the works and any trespass on the adjoining properties by any employee on the site and indemnify the Employer against any claims, costs of proceedings whatsoever arising out of trespass or alleged trespass.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Progress Chart and Reports

- A The Contractor shall submit a programme for the Works as stated at Clause 7.2 of the Conditions of Contract for approval by the Employer. The programme is to include the order in which the Contractor intends to carry out the Works and the anticipated dates for commencement and completion of the various operations and sections of the Works.
- B The programme shall be compiled using Microsoft Project Gantt Chart 'Critical Path method'.
- C The Contractor shall deliver two (2) copies of the approved programme for use by the Employer and his Representative and shall update it as necessary. This does not relieve the Contractor of his obligation to apply in writing for instructions as required by the Conditions of Contract nor his responsibility to complete the Works by the Contract completion date.

Provisional Quantities

- D Work items identified/described as 'Provisional Quantities' shall be subject to re-measurement on site. Adjustments will be made on the actual quantum of works re-measured.

Provisional Sums

- E Sums under this heading in the Bill for Provisional Sums shall be expended as directed by the Employer's Representative. Sums not expended shall be deducted from the Contract Sum and adjusted in the Final Account.
- F The Contractor is not required to add any further charge to these sums.
- G Where works designated under this heading are executed by the Contractor and/or his Sub-Contractors, such work shall be measured and valued according to the provisions of Clause 11 of the Conditions of Contract.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Units of Measurement

A The units of measurement have been abbreviated in the Bills as follows:-

Meter	-	m
Square Meter	-	sm ²
Cubic Meter	-	cm ³
Millimeter	-	mm
Number	-	nr.
Kilogram	-	kg

B All weights and measures referred to in the Bills of Quantities are those normally in use locally unless otherwise stated.

Protection of Works

C Case up and protect all works executed by Contractor and Sub-Contractor from any kind of injury and damage. Provide all necessary temporary roofs, tarpaulins, screens, planking and general protection that may be required and clear away when no longer needed and reinstate any work, which has become damaged, to the satisfaction of the Employer's Representative at the Contractor's own expense.

Clearing and Cleaning

D The Contractor shall clear away all superfluous building materials and rubbish as they may accumulate during the currency of the contract, keeping the site clean and tidy during the progress of the works and leaving it so at the completion of the works.

E The Contractor shall clear out the buildings and remove from site all rubbish from whatever source arising as it accumulates during the currency of the contract, keep the building clean, tidy and dry at all times during the progress of the works and leaving it so at the completion of the works.

F All locks to be eased and oiled and all missing keys replaced. Sanitary ware to be cleaned externally and internally where necessary.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

Making Good

- A The Contractor is to make good at his own expense all damage to the structure, fittings and decorations resulting from the operations.

Log Book

- B Provide and keep on the site of the Works a suitable logbook in which the Employer's Representative may enter and confirm and verbal instructions.

Administrative Supplies

- C Include the Provisional Sum of 25,000.00 for Administrative Supplies.

25,000.00

Availability of Materials

- D Ensure that all materials will be available from stock and, if this is not the case, make arrangements for deliveries so that no delay is occasioned due to the non-availability of materials.

Safety, Health and Welfare of Work People

- E The Contractor's attention is drawn to the provision of a safe environment for his work people and other users of the compound and members of the public. The Contractor is to comply with all the requirements of the Occupational Safety and Health Act 2004 as pertaining to these works. Allow for all costs in providing the necessary safety equipment and personnel in meeting the required safety standards.

Existing Services

- F The Contractor shall obtain information as to the position of existing services (electricity, telephone, water, drainage or sewer), which may affect his tender, as the Contractor will be held liable for any damage caused by him.

MOWT GUAICO COMPLEX - SECURITY FENCING

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

OBLIGATIONS IMPOSED BY EMPLOYER

- N.B The purpose of this section is to draw Tenderers' attention to conditions which the facility imposes on the successful Contractor to undertake work.
- A All workmen engaged or associated with the works shall be required to access the site via the main security entrance.
- B All materials, shall be brought into the facility via the main security entrance of the building. Such access shall be coordinated with and subject to the site's security personnel and systems.
- C All workmen shall be required to sign in and out at the security check point, and shall be subject to the direction and instruction of the facility's security personnel and systems
- D The Contractor shall provide to the Employer's Representative prior to their start-up on site, a list of all the workmen to be employed on the project which may be used at the site of the works. Any and all changes of employees on site must obtain the prior approval of the Employer's Representative. If workmen are NOT to be used at the site, e.g. work confined to the factory warehouse, office or other such facility then such workmen need not be included on the list of workers whose details shall be forwarded to the Employer's Representative. The details of the workers to be utilized at the site of the works shall include: full and proper names with current home addresses supplemented with photocopies of one (1) valid form of national identification of Trinidad and Tobago i.e. driver's permit, identification card or passport. Company's identification cards or such identification shall not be accepted.
- E Provide Standard Size work identification cards with a recent photograph, name and address of employee, and name of the Contracting Firm which shall be worn on their persons and shall be visible at all times. If requested by such authorized personnel, the Contractor and his workmen shall produce their identification passes for inspection.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

OBLIGATIONS IMPOSED BY EMPLOYER (CONT'D)

A Failure to comply with the facility's security personnel and systems may result in the Contractor or their workmen being barred entry into the facility or if present may result in the expulsion from the facility.

N.B. Failure to comply with the facility's security personnel or systems shall NOT qualify as grounds for the Contractor to claim under Clause 7.3 (Extension of Time).

B The hours of work shall be from 8:00 a.m. to 4:00 p.m. on Mondays to Fridays. Request for overtime is to be made in writing to the Employer's Representative twenty-four (24) hours in advance.

C The Contractor shall be required to clean all their work areas which impact on the users and or visitors of the site prior to start of work on the next business day.

D The Contractor shall be required to hoard off or protect the site's users and or visitors from their areas of work which may impact or disturb the site's users and or visitors in the various locations during execution of their work.

E The Contractor is hereby notified that the taking of photographs is strictly prohibited on this site and he shall take full responsibility in notifying his employees and ensuring that this directive is strictly adhered to. Failure to comply with the above directive may result in theseizure of cameras, film and the like, and may also result in prosecution by law.

F The site of the proposed works shall be under the Contractor's sole charge from the date of possession to the date of handing over after completion of the contract.

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

	\$	¢

	COLLECTION	From	Page	Nr.	1/1
	"	"	"	"	1/2
	"	"	"	"	1/3
	"	"	"	"	1/4
	"	"	"	"	1/5
	"	"	"	"	1/6
	"	"	"	"	1/7
	"	"	"	"	1/8
	"	"	"	"	1/9
	"	"	"	"	1/10
	"	"	"	"	1/11
	"	"	"	"	1/12
	"	"	"	"	1/13
	"	"	"	"	1/14
	"	"	"	"	1/15
	"	"	"	"	1/16
	"	"	"	"	1/17
	"	"	"	"	1/18
	"	"	"	"	1/19
	"	"	"	"	1/20
	"	"	"	"	1/21
	"	"	"	"	1/22
	"	"	"	"	1/23
	"	"	"	"	1/24

To Collection \$

MOWT GUAICO COMPLEX - SECURITY FENCING

PRELIMINARIES AND GENERAL CONDITIONS

\$

¢

COLLECTION	From	Page	Nr.	
				1/25
"	"	"	"	1/26
"	"	"	"	1/27
"	"	"	"	1/28
"	"	"	"	1/29
"	"	"	"	1/30
"	"	"	"	1/31
"	"	"	"	1/32
"	"	"	"	1/33

To Collection \$

COLLECTION

Collection from Page 1/34

Collection from Page 1/35

**PRELIMINARIES/GENERAL CONDITIONS
CARRIED TO GENERAL SUMMARY**

\$

BILL NO 2

MATERIALS AND WORKMANSHIP/SPECIFICATIONS

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

DEFINITIONS

- A "Satisfactory" shall mean to the satisfaction of the Employer.
- B "Approved" shall mean approved by the Employer.
- C "Required" shall mean by the terms of this specification, or any other contract document.
- D "Passed by the Employer" shall mean accepted as complying with specification requirements as far as can be judged from visual inspection.
- E "Current Issue" shall mean latest issue at the date of tender invitation.
- F "Failure to comply with this specification" shall mean failure to comply satisfactorily with all the requirements of the specification in this Tender Document.
- G "As described" shall mean as described in the relevant section of this Tender Document.
- H "Equal and approved" shall mean of equal specification and meeting the approval of the Employer.

GLOSSARY

ACI	-	American Concrete Institute
AISC	-	American Institute of Steel Construction
ANSI	-	American National Standards Institute
ASME	-	American Society of Mechanical Engineers
ASTM	-	American Society for Testing and Materials
AWS	-	American Welding Society
BS	-	British Standards
SMAW	-	Shielded Metal Arc Welding
UBC	-	Uniform Building Code
AASHTO	-	American Association of State Highway and Transportation Officials

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

DEMOLITION

Scope of Works

- A Demolitions are limited to the items of work specifically stated in the Work to be Done Section.

Measurement

- B Quantities are approximate and are for guidance only.

Inconvenience

- C Carry out all cutting and pulling down in such a manner as to cause as little inconvenience as possible to adjoining occupiers and the public and accept responsibility for any claims which may arise. Keep all debris well-watered during the work to prevent dust arising.

Control and Protection

- D Provide all requisite temporary shoring, strutting or other supports to walls, floors, roofs, etc. necessary for the controlled cutting, demolition, protection and safety of existing structures and all screens and protection necessary to protect the adjoining occupiers and the general public. Alter, adapt and maintain all such temporary work as may be necessary from time to time and clear away on completion.

Levels

- E Where demolitions are described as to be taken down to ground level, and the like and the levels on opposite sides of the structure are different, the description shall be deemed to apply to the lower of the levels, unless otherwise indicated.

Old Materials

- F Old materials arising from demolition shall become the property of the Contractor, unless otherwise stated. Clear away from the site as they accumulate all rubble materials and debris arising from cutting away and pulling down, none of which shall be reused in the Works unless prior approval has been obtained from the Employer's Representative.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

DEMOLITION

Pricing

- A Allow in pricing for all incidental work directly associated with the items of demolition which, at the time of tendering could reasonably have been foreseen. Prices shall be deemed to include also for making good of all other work disturbed in the execution of the work described in this Section with materials and workmanship to match in every respect the surrounding work and properly bonded thereto unless otherwise described.
- B Allow for all other considerations arising from the specification.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

EXCAVATION AND EARTHWORK

Generally

- A The Contractor shall examine and judge for himself the nature of the ground to be excavated. Excavation shall include for excavating in and handling whatever soil may be met with, including loose or compacted hardcore and for grubbing up any disused drains, pipes etc. and any other obstruction met with except rock, concrete and blockwork, which are measured separately.

Nature of Ground

- B Every precaution must be taken to ensure that moisture conditions in the soil are controlled as to have deleterious effect on the foundations. Excessive drying out or wetting must therefore be avoided during construction. The bottom 75mm of all excavation for concrete work is to be done on the same day as the concrete is placed on it.

Bulkage

- C The quantities measured for excavation and subsequent disposal of same have been calculated on the net bulk before the initial excavation operations and the contractor should therefore make due allowance in his rates for subsequent variations for gross bulkage or for any extra space required to accommodate strutting. Working space has not been included in accordance with the Standard Method of Measurement for Building Works.

Surplus Excavation

- D All surplus excavated material shall be removed from site. All cleared vegetation shall be burnt or otherwise disposed of by the Contractor as approved.

Excessive Excavation

- E Should excavation be taken below the specified levels, the difference in level shall be made up in concrete of 1:4:8 aggregate mix at the Contractor's own expense

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

EXCAVATION AND EARTHWORK (CONT'D)

Level and Compact

- A Level and ram surface of ground and bottom of all excavations to receive concrete to attain a compaction density equivalent to 95% Standard Proctor density. The Contractor is to allow soil to dry out to appropriate moisture content. Any soft areas which may develop during compaction shall be removed and replace with selected excavated material.

Approval of Bottoms

- B The excavation for all foundations shall be inspected by the Employer's Representative before any concrete is placed and the Contractor shall give a minimum of 24 hours' notice that such an inspection will be required.

Earthwork Support

- C The Contractor shall provide adequate timbering to prevent collapse of the earth cuts where appropriate. The Contractor shall be entirely responsible for upholding the sides of the excavations and any damage caused by them or other parts of the works. Excavations are to be left exposed for as short a time as possible.

Soil Filling and Selected Excavated Material

- D Soil for filling to make up levels under floors and pavings shall be dry, clean sub-soil, free from clay, vegetable soil, roots and rubbish.

Hardcore Filling

- E Hardcore other than pit run is to consist of clean crushed natural stone, broken block or gravel or concrete rubble approved by the Employer's Representative, free from clay silt or organic material, not exceeding three inches maximum size and is to be consolidated with a heavy power roller or approved equivalent. The hardcore is to be well wetted and blinded with sand 50mm thick to present a uniform and even upper surface.
- F Where pit run gravel is specified it shall be graded from 75mm down to fine and shall contain approximately 25% of natural clay for blinding purposes and well rolled with a heavy power driven roller of 6.10 tonne minimum. It shall be carried out in horizontal layers not exceeding 225mm thickness, moistened or dried as required by the Employer's Representative. No sand blinding shall be required where pit run is used.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

EXCAVATION AND EARTHWORK (CONT'D)

Backfill

- A Backfilling shall be carried out with selected excavated material around foundations and at the back of walls etc., up to original ground level or as directed. It shall be carried out in horizontal layers not exceeding 225 mm thickness, moistened or dried as required by the Employer's Representative and thoroughly compacted by mechanical or other approved means to a dry density not less than the surrounding soil.

Compaction of Fill

- B Sand for blinding and pits shall be clean soft sand free firm clay, loam, organic or other matter.

Damp-Proof Membrane

- C The damp-proofing is to be polythene (polyethylene) sheeting 500 gauge (0.005" thickness).
- D The polythene sheeting is to be laid over blinding without being punctured with minimum 300 mm and side laps and carried over walls for the full area of the ground floor slabs.

Subterranean Termite Proofing

- E Treatment of building site shall be with one of the following toxicant as an emulsion in water at the minimum concentrations listed: -
- | | | | |
|------------|---|------|-----------|
| Aldrin | - | 0.5% | by weight |
| Chlordane | - | 1.0% | " " |
| Dieldrin | - | 0.5% | " " |
| Heptachlor | - | 0.5% | " " |
- F Toxicant emulsion shall be applied by spraying immediately before pouring of concrete at the rate of 5 liters per meter of surface area of excavations and 2.5 liters per meter on filling and sand beds etc.
- G Treatment shall not be carried out when rain is falling or when the ground is excessively wet.
- H A warranty of at least five (5) years is required against infestation by subterranean termites during which period the contractor shall carry out free of charge any remedial works.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

EXCAVATION AND EARTHWORK (CONT'D)

Protection of Service Ducts Etc.

- A The Contractor will be responsible for the protection of public and private service ducts, pipes, drains etc., obstacles encountered during excavations must be reported to the Employer's Representative and shall be dealt with as instructed on site by the Employer's Representative.

Pricing

- B Prices are to include for:
- i. All considerations arising from the specification.
 - ii. Hand and/or mechanical excavation and disposal in whatever types of soil and fillings are encountered excluding concrete and rock but including roots, drainpipes and other obstructions and the contractor shall judge for himself the nature of the conditions.
 - iii. Extra difficulties of getting out, disposal and the extra bulking of concrete and rock.
 - iv. Earthwork support left in at the Contractor's violation
 - v. Temporary retention of filling
 - vi. Excavation in gravel and hardcore
 - vii. Allow for excavation on items measured as 'extra over excavation' for any additional cost of disposal
 - viii. The description 'get out' shall include for all wheeling, basketing out, double handling or re-excavation from temporary spoil heaps of surplus material as may be necessary preparatory to removing from site.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK

General

- A Concrete shall be made with cement, fine aggregate, coarse aggregate and water. No other agent or ingredient shall be added to the concrete without prior approval of the Employer's Representative. The Contractor shall ensure that the use of any such approval additive will not adversely affect the strength, durability or appearance of the finished concrete works.

Definitions

- B The following terms whenever used in this specification shall be taken to have the meanings assigned to them below.
- C "Plain concrete" shall mean concrete used in members made with a structural grade of concrete listed, but not containing steel reinforcement.
- D "Structural props" shall mean those components of the strutting to formwork which will be retained in position when the shuttering is removed from concrete faces.

Responsibility

- E No approval or acceptance by the Employer's Representative or his representative shall in any way relieve the Contractor of his responsibility for the quality of materials and the standard for workmanship in the finished works, and for the strength, durability and appearance of the finished concrete works.

DESIGN

Reinforced Concrete

- F Design material and workmanship shall be in accordance with the American Concrete Institute (ACI) code – Manual of Concrete Practice (ACI - 318 and ACI - 315 pay special attention to requirements).

Plain Concrete

- G Plain concrete works shall comply with all the relevant requirements for reinforced concrete.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

MATERIALS

General

- A All materials in the works shall comply in all respects to the best standard available locally, based on the relevant American and British Standard, except for any deviations specifically authorized in subsequent clauses of this Bill of Quantities.

Cement

- B Cement shall be Portland cement complying with ASTM C150. All cement shall be delivered to site in bulk cement lorries of approved design or in sealed bags. All cement used in concrete in contact with the ground shall be sulphate resisting.

Aggregates

- C Aggregates (fine and coarse) shall be in accordance with ASTM C 33. In special circumstances a deviation from ACI in respect of grading of aggregate may be accepted, subject to the prior approval of the Employer's Representative.
- D Aggregate for exposed concrete shall be free from all impurities likely to cause discoloration and shall be of consistent colour throughout the work.

Water

- E Water to be used in the works shall be clean and free from all harmful matter, in suspension or solution in accordance with AASHTO T 26.

Reinforcement

- F Mild steel reinforcement shall comply with the requirement ASTM A615.
- G Welded steel fabric shall comply with the recommendations of ASTM A185.
- H High tensile steel reinforcement shall comply with the requirements of ASTM.
- I Test certificates shall be made available for every batch of mild and high tensile steel delivered for the inspection of the Employer's Representative.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Storage

- A All cement shall be stored in a weather proof shed of adequate size having a raised dry floor, or in silos of approved design.
- B Aggregates shall be stored on hard paved areas with adequate dividing walls, or in approved containers, to prevent mixing of different types of aggregate.
- C Cements and aggregates shall be used in the order in which they are received on site, and their storage shall be arranged to facilitate this procedure.
- D Reinforcement shall be stored in racks clear off the ground.
- E Where materials are to be stored on suspended floors or roofs the Contractor shall ensure that such storage will not overload or distort the structural frame.

Rejected

- F All materials that have been damaged or are contaminated, or have deteriorated or do not comply with the requirements of this specification shall be rejected and shall be removed from the site immediately at the Contractor's expense.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

TEST

General

- A Before the commencement of the contract, the Contractor shall submit to the Employer's Representative for his approval the name of the Testing Facility he proposes to employ.
- B The Contractor shall provide all equipment necessary for carrying out all tests on site specified or described in these Bills, and shall make and provide for all necessary arrangements for the delivery of all samples and test pieces to be tested by the approved Testing Facility.
- C The Contractor shall provide for maintaining all testing equipment on site in proper working order to the satisfaction of the Employer's Representative.
- D The Contractor shall provide for sending copies of test results to the Employer's Representative where these are required.
- E The Contractor will be paid for all tests specifically required in this specification.
- F The Contractor will not be paid for any special tests called for by the Employer's Representative in consequence of any failure by the Contractor to comply with this specification.
- G The Contractor will be paid, at rates to be agreed, for any other special tests called for by the Employer's Representative unless, the tests results show failure by the Contractor to comply with this specification.

Cement

- H The Contractor shall state his source of cement to be used on the site and ensure compliance with the relevant A.S.
- I The manufacturer's certificate of tests including compressive strength, slump and air content tests, carried out in accordance with ACI 301. Cement shall be supplied and kept on site for each consignment of cement delivered to the works. At the commencement of the contract the Contractor shall deliver a 23 kg. sample of each type of cement he intends to use to the approved Testing Authority.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Aggregates

- A Samples of aggregate to be used should be supplied if so requested by the Employer's Representative.
- B Aggregate shall comply with ASTM C33. All sampling and testing of aggregates shall be carried out in accordance with the relevant recommendations of ACI - Manual of Concrete Practice
- C At the commencement of the contract, and upon request by the Employer's Representative, the Contractor shall deliver to the approved Testing Authority for inspection and analysis, 3 separate samples of each type of aggregate to be used in the structural concrete grades. For each type of aggregate the 3 samples shall be taken at the proposed source of supply at intervals of not less than one day. For fine aggregates the samples shall be 45kg. weight each.
- D To ensure that no significant variation in the grading of the aggregates occurs during the contract, sieve analyses shall be carried out on site at fortnightly intervals. The results of these analyses shall be recorded on a chart to be kept on the site and to be handed to the Employer's Representative on completion of the structural concrete works.
- E If the grading of any aggregate is changed the Employer's Representative shall be notified before any of this aggregate is used in the works.
- F The quantity of water contained in the aggregate shall be determined by an approved method at least once a day, when concrete mixing is in progress.

Mixing Plant

- G Mixing of concrete shall be in accordance with ACI 318.
- H Weight-batching plant shall be checked weekly in the presence of the Employer's Representative. The checking shall be carried out with approved weights provided by the contractor for this purpose.
- I The water gauge of the concrete mixer shall be inspected and tested daily when concreting is in progress.
- J If any fault in the mixing plant is detected by these tests or otherwise, the fault shall be rectified to the satisfaction of the Employer's Representative before any further use is made of the equipment.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Concrete Tests

- A Cylinders, sampling and testing shall be made, cured and tested and the results recorded in accordance with the recommendations of the current issue of ASTM C 31, unless specifically modified in subsequent clauses of the specification.
- B The test specimens shall be 150mm cubes made in steel moulds of approved design. The test cubes shall be taken from typical batches of concrete as directed by and in the presence of the Employer's Representative, without prior notice.
- C Subject to the Employer's Representative approval, tests of works cubes and cylinders maybe carried out on site with a testing machine of approved design, in the presence of the Employer's Representative. Otherwise the test cubes shall be properly packed, suitably labelled, and sent, carriage paid, by the Contractor.
- D Slump test or compaction factor tests of the mixed concrete shall be carried out at regular intervals and the results recorded and kept on the site in accordance with ASTM C143.

Exposed Concrete Finishes

- E Where exposed concrete finishes are required, the Contractor shall provide in a suitable position test samples of each type of finish to be used in the works. The Employer's Representative shall approve the test samples before these finishes are put in hand in the works.

Load Tests

- F The Employer's Representative may call for Load tests of completed parts of the structure at any time.
- G The Employer's Representative will specify the test procedure and the standard of acceptance.
- H Where the results of such tests indicate that any member or part of the structure does not comply with this specification, that part of the structure shall be classed as defective work.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

CONCRETE

Concrete Mixes

- A For structural concrete mixes, made with Ordinary Portland Cement, the average 28 day works strength shall be not less than that specified in the table below.
- B Where Rapid Hardening Portland Cement is to be used for any of these mixes the 28 days works strength shall be not less than that specified in the table below shall be increased by 6 N/mm .
- C Blinding concrete grades for blinding and filling shall be to the nominal mixes as described.
- D The mixes required are as follows:-

TABLE 1

Grade	28 Days Works strength in N/mm	Proportions	Fine Aggregates Max. Size	Coarse Aggregates
30	31	1:¾:3	5mm	5mm - 20mm
25	26	1:½:3	5mm	5mm - 20mm
20	21	1:2:4	5mm	5mm - 20mm
7	No strength specified	1:4:8	-	38mm all-in

- E The proportions given in table are by weight.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Mix Proportions

- A Mix proportions shall be designed by the Contractor for each structural concrete mix listed in the table.
- B The mixes shall be designed by an approved method; to have an average preliminary strength not less than $1 \frac{1}{3}$ times the specified strength at 28 days.
- C A reduction in the preliminary design strength as specified above may be permitted subject to the following conditions:-
 - (i) The Contractor shall satisfy the Employer's Representative that the standard of supervision and concrete control to be exercised on site for the duration of the structural works, justifies such a reduction.
 - (ii) The average strength of the concrete used in the works shall be assessed according to a statistical method, applied to works cube tests results.
 - (iii) The mixes shall be designed to have an average preliminary design strength which exceeds the specified 28 day works strength by twice the expected standard deviation, (defined as in ACI 318). The standard deviation shall not exceed 5 N/mm.
- D The mixes shall be designed to have sufficient workability to allow concrete to be placed and properly compacted by the methods to be used on site.
- E Complete calculations for the mix proportions and the information and assumptions on which they are based, shall be submitted to the Employer's Representative, for each mix listed in the table, before the cubes for the preliminary strength tests are made.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Preliminary Strength

- A Preliminary strength cube test shall be carried out to check the calculated proportions for each structural concrete mix.
- B Preliminary cubes and cylinders shall be made for each mix from the three samples of aggregates and the sample of cement sent to the approved Testing Authority. From each sample of aggregate 6 cubes shall be made, 3 for test at seven days and 3 for test at 28 days.
- C Each set of three cubes tested at 28 days shall be accepted as satisfactory if, either all three cubes have a crushing strength greater than the preliminary design strength, or the average strength of the three cubes is greater than the preliminary design strength, and the difference between the greatest and the least is not more than 20% of that average.
- D If for any mix in the table, the test result of one set of three cubes tested at 28 days falls below this requirement, the mix shall be rejected, the proportions revised and the testing procedure repeated.
- E For each structural concrete mix, the 28 day preliminary strength shall be calculated as the average of all the cubes tested at 28 days and the 7 day preliminary strength shall be calculated as the average of all the cubes tested at 7 days.
- F Results of all preliminary tests shall be sent to the Employer's Representative as soon as they are available.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Works Strength

- A Works strength cube tests shall be carried out during the contract period for each mix listed as specified in(a) or (b) below:-
- (a)
 - (i) For each mix designed to have a preliminary strength of at least $1 \frac{1}{3}$ times the specified 28 days' work strength a sample of the concrete shall be taken on each of the first four days the mix is used on site. Six cubes shall be made from each sample, 3 for test at 7 days and 3 for test at 28 days.
 - (ii) Subsequently, a sample of the concrete shall be taken and 6 cubes made from the sample, for every 75 cu. m. of concrete placed in each mix, provided that sample shall be taken at least twice weekly for each mix used in each week.
 - (iii) Each set of three cubes tested at 28 days shall be accepted as satisfactory, if the crushing strengths of all three cubes are greater than the specified strength for that mix, or if the average strength of the three cubes is greater than the specified strength and the difference between the greatest and the least is not more than 20% of that average.
 - (b)
 - (i) For each mix designed to have a preliminary strength greater than the specified strength by twice the expected standard deviation, 3 separate samples of the concrete shall be taken on each of the first four days the mix is used on site. Subsequently, samples shall be taken for each such mix for every 76 cu. m. of concrete placed with a minimum of one sample of each day the mix is in use.
 - (ii) From each sample 3 cubes shall be made, one for test at 7 days and two for test at 28 days.
 - (iii) From the results of the first 24 cubes tested at 28 days the mean strength and the standard deviation shall be calculated. The mean strength shall exceed the specified strength for the mix by at least twice the calculated standard deviation and the standard deviation shall not exceed 5 N/mm as satisfactory if not than one of the individual results falls below the specified strength and none fall below the specified strength and none fall below 90% of that strength.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Works Strength (Cont'd)

- A If the results for any mix fall short of these requirements the mix shall be rejected, the proportions revised and the testing procedure repeated.
- B Subsequently, the average strength and the standard deviation shall be checked weekly, including all previous 28 day works cube test results in each analysis.
- C If at any time the mean strength or the standard deviation fails to satisfy the requirements given above, the Employer's Representative shall be notified immediately, and action shall be taken as the Employer's Representative shall direct.
- D In all cases an estimate of the corresponding 28 day strength may be obtained from the 7 day cube tests by assuming the ratio of 28 day to 7 day strengths to be the same as that obtained from the average strengths of the preliminary tests for the same mix.
- E Results of all works cube tests and test analysis shall be kept on site and copies shall be sent to the Employer's Representative as soon as the results are available. All records of works cube tests shall indicate clearly which part of the structure each sample of concrete represents.

Works Test Failure

- F If any set of 7 day cube tests results indicate a low 28 day strength to be expected the Employer's Representative shall be notified immediately and no props shall be removed from the affected part of the structure until the cause is determined.
- G If any set of 28 day cube test results fall below the specified strength the Employer's Representative shall be notified immediately and the cause of the failure investigated.
- H The extent of the area of the structure affected shall be as defined by the Employer's Representative.
- I All the costs of, and all charges in consequence of the courses of action the Contractor is directed to follow shall be borne by the Contractor.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Site Control

- A For all concrete grades listed in the table the quantities of cement and aggregates in the mix shall be measured separately by volume. Where the cement is delivered to the site in bags, each batch of mixed concrete shall be proportioned to use an integral number of complete bags.
- B The water-cement ratio determined in the calculation of proportions for each mix shall be accurately maintained. The amount of water used in each batch shall be controlled by direct measurement, and due allowance shall be made for water content of the aggregate as determined by the daily test.
- C The slump test or compaction factor tests shall be used as a guide to the workability of the mixed concrete.
- D If a change in the grading of any aggregate is unavoidable, the proportions of all structural concrete mixes affected shall be revised to take account of the altered grading.
- E The water-cement ratio determined in the calculation of proportions for each mix shall be accurately maintained. The amount of water used in each batch shall be controlled by direct measurement, and due allowance shall be made for water content of the aggregate as determined by the daily test.
- F The slump test or compaction factor tests shall be used as a guide to the workability of the mixed concrete.
- G If a change in the grading of any aggregate is unavoidable, the proportions of all structural concrete mixes affected shall be revised to take account of the altered grading.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Ready-Mixed Concrete

- A Permission must be obtained, and the name of the supplier submitted before the use of ready-mixed concrete. Permission must also be obtained to change the supplier of ready-mixed concrete and also to revert back to site-mixed concrete. The ready-mixed concrete must arrive on site dry. Water shall not be added to the mix until instructions to do so are given by the Contractor's supervisor. The concrete must be discharged into the formwork within 45 minutes of mixing. All the requirements for site concrete, previously given must be compiled with, except for time of discharge. Any ready-mixed concrete that has not been deposited within 45 minutes of mixing, shall not be used and shall be removed from the site. If required to do so, certificates showing batch records of the ready-mixed concrete shall be produced by the Contractor. Experienced ready-mix truck drivers only will be allowed to deliver the ready-mixed concrete and they, when told to mix-up by the Contractor's supervisor, will discharge into the mixer drum the exact amount of water required in accordance with previous clauses of this specification. The amount of water in the mix can only be changed on the authority of the Employer's Representative.
- B Although testing is sometimes performed by the ready-mixed concrete suppliers, the Contractor must carry out his own testing in accordance with the requirements for site-mixed concrete. The concrete cubes shall be tested for strength by an independent authority and the results submitted to the Employer's Representative without delay.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

REINFORCEMENT

General

- A Reinforcement bending schedules will be provided, listing the cut length, diameter or size, bending dimensions and location of each bar in the works.
- B Before the bars are cut to length the Contractor must check:
 - (i) That reinforcement schedules are provided for each part of the structure sufficiently in advance of his concreting programme.
 - (ii) That each schedule includes the correct quantities of reinforcement as detailed on the drawing to which it relates.
 - (iii) That the grades of reinforcement given in each schedule corresponds to those shown on the relevant drawing.
- C The Employer's Representative shall be notified of any errors disclosed by these checks.
- D The Contractor shall be responsible for all delays and charges arising directly from failure to comply with these requirements.

Bending

- E All reinforcement bars shall be accurately shaped in a manner that will not injure the materials, to the details shown on the drawings and bending schedules. Bars shall not be bent hot.
- F The minimum diameter of former to be used when bending high tensile bar shall be six times the bar diameter. The bar diameter shall be the diameter of the largest circle that can be inscribed in the cross section of the bar.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Cleaning

- A All reinforcement shall be accurately placed, securely fixed and adequately maintained in the positions shown on the drawings.
- B The concrete cover to the reinforcement detailed on the drawings shall be maintained by use of approved methods.
- C The Contractor shall supply and fix all necessary chairs required to maintain the reinforcement in the correct position. The spacing of chairs and the diameter of bars used in their manufacturer shall be agreed with the Employer's Representative. The weight of mild steel used for chairs not included in the reinforcement bending schedules will be paid for at the appropriate rates in the tender document.
- D All laps of fabric and all intersections of bars shall be securely connected with malleable iron wire of suitable size or by another approved method. The wire is to be arranged with ends bent away from the formwork so that the concrete cover is not reduced by more than the diameter of the wire.
- E No metal part of any device used for connecting bars or for maintaining reinforcement in the correct position shall remain permanently within the specific minimum concrete cover to the reinforcement.

Placing

- F All reinforcement shall be accurately placed, securely fixed and adequately maintained in the positions shown on the drawings.
- G The concrete cover to the reinforcement detailed on the drawings shall be maintained by use of approved methods.
- H The Contractor shall supply and fix all necessary chairs required to maintain the reinforcement in the correct position. The spacing of chairs and the diameter of bars used in their manufacturer shall be agreed with the Employer's Representative. The weight of mild steel used for chairs not included in the reinforcement bending schedules, will be paid for at the appropriate rates in the tender document.
- I All laps of fabric and all intersections of bars shall be securely connected with malleable iron wire of suitable size or by another approved method. The wire is to be arranged with ends bent away from the formwork so that the concrete cover is not reduced by more than the diameter of the wire.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Placing Cont'd

- A No metal part of any device used for connecting bars or for maintaining reinforcement in the correct position shall remain permanently within the specific minimum concrete cover to the reinforcement.
- B The minimum concrete cover to reinforcement at faces exposed to the elements, earth or water in the finished works shall be 75mm, elsewhere the minimum concrete cover shall be 38mm unless otherwise specified.

Welding

- C Welding of steel reinforcement is not required for structural purposes. No welding of reinforcement for fixing shall be put in hand without the written permission of the Employer's Representative.
- D Welding of cold worked high tensile steel reinforcement will not be permitted.

FORMWORK

General

- E Before construction commences the Contractor shall notify the Employer's Representative of the general method and system of formwork he proposes to use for all the main structural members.
- F Formwork and its supporting members shall be sufficiently strong to carry the works and all incidental loading. The props and lateral supports shall be sufficiently closely spaced to prevent displacement or visible deflection of the shutters under the weight of hydraulic pressure of the wet concrete. All joints in the formwork and joints between the formwork and previous work shall be sufficiently tight to prevent loss of liquid from the concrete through these joints.
- G Methods of fixing and locating formwork which result in holes through the concrete section when the formwork is removed shall not be used.
- H No metal part of any device for maintaining formwork in the correct location shall remain permanently within the specified concrete cover to the main reinforcement.
- I The use of concrete retarders or similar preparations on the formwork surfaces shall be subject to the prior approval of the Employer's Representative.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Mortises, Holes, Chases in Concrete

- A Fixing blocks, ends of brackets, bars bolts etc., shall be cast in the concrete at the time of placing and all mortises, holes, apertures, chases, grooves etc., shall be accurately set out in the formwork as the concrete is placed. No part of the concrete works shall be cut away for any such item, or for any other reasons, without the Employer's Representative's permission.
- B The Contractor shall obtain all sub-contractors complete information of their requirements regarding conduits, pipes, fixing blocks or boxes, chases, holes and any other items to be cast or formed in the concrete members, subject to the condition that failure of a Sub-Contractor to supply such information shall not be allowed to delay the progress of the contract.
- C The Contractor shall ensure that all Sub-Contractors are informed of his programme for the structural works at the commencement of the contract. He shall also ensure that Sub-Contractors requirement relating to concrete members are approved by the Employer's Representative before work is commenced.
- D At the commencement of the contract the Contractor shall supply all Sub-Contractors with written copies of the items under this heading of the specification.

Propping

- E The vertical propping to all formwork shall be carried down sufficiently far to provide the necessary support without damage, over stress or displacement of any part of the construction.
- F Structural props shall be retained in position until new construction is sufficiently strong to support its own weight and any loads to be placed on it during the contract period.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Final Preparation

- A The internal faces of the formwork may be coated with an approved preparation to prevent adhesion of the concrete to the forms, provided that the use of this preparation will not stain the surface of the finished concrete. None of this preparation shall be allowed to touch the reinforcement.
- B Immediately before the concrete is placed in any section of the formwork, the interior of that section shall be completely cleared of all extraneous materials.
- C Each section of the formwork to structural members shall be inspected and passed by the Employer's Representative immediately before the concrete is placed in that section. At least 24 hours' notice shall be given when such an inspection is required.

Exposed Concrete Faces

- D Unless otherwise specified all concrete faces to be exposed in the finished works shall be left as a smooth finish with a fair face, true, to line, and level within the specified tolerances for the works.
- E After inspection all superfluous fins and similar projections shall be carefully removed. No render or other applied finish shall be used to obtain a fair face to the concrete.
- F All concrete faces to be exposed in the finished works shall be adequately protected against damage and surface staining during the execution of subsequent works.
- G Any finished works which the Employer's Representative shall judge inferior in any respect to the standard of the relevant approved sample or which is subject to subsequent damage or surface staining shall be rejected and treated as defective work.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

CONSTRUCTION JOINTS AND EXPANSION JOINTS

Position of Construction Joints

- A The Contractor shall ensure that all construction joints are arranged to minimize the effect of shrinkage of the concrete. Generally the distance between construction joints in walls and slabs shall not exceed 13m.
- B The positions of all joints shall be agreed with the Employer's Representative before work is commenced.
- C Concrete placing shall be carried out continuously between consecutive construction joints.
- D Construction joints between different grades of concrete and between concrete mixes using different cements shall be made and positioned as the Employer's Representative will direct.

Treatment of Construction Joints

- E All construction joints other than horizontal joints shall be formed with proper stop-boards and the stop-boards shall be fixed vertically unless otherwise directed. All joints shall be joggled.
- F All construction joints shall be hacked and all laitance and honeycombed concrete removed from the contact face before the adjacent section is concreted. Where an adjacent face of the concrete is to be exposed in the finished works, hacking of the contact face shall be terminated 12mm away from the face to be exposed. Air and water jetting immediately after striking stop ends may be used instead of hacking subject to the prior approval of the Employer's Representative. All loose materials shall be removed from contact face immediately after hacking or jetting has been completed.
- G When work is to be resumed at a construction joint, it shall be swept clean and treated with a 2:1 sand/cement slurry or approved bonding agent before starting the new pour.
- H At vertical joints the fresh concrete shall be placed directly against the hacked and treated contact face.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

CONSTRUCTION JOINTS AND EXPANSION JOINTS (CONT'D)

Expansion Joints

- A Expansion joints shall be positioned and formed in accordance with the details, shown on the drawings.
- B All expansion joints shall be filled with an approved compressible material, unless otherwise indicated on the drawings.

Mixing

- C Concrete shall be mixed in an approved mechanical batch type concrete mixer. Mixing shall be continued until there is an uniform distribution of the materials in the mixer and the mass is uniform in colour. The minimum period recommended by the mixer manufacturer.

CONCRETING

- D The volume of mixed materials in each batch shall not exceed the rated capacity of the mixer. Each batch of concrete shall be completely discharged before the mixer drum is re-charged.
- E The mixer drum shall be thoroughly washed out whenever mixing ceases.

Transporting

- F Concrete shall be transported as rapidly as possible from the mixer to its final position without segregation or loss of any of the ingredients.
- G All plant and equipment used for transporting concrete shall be kept clean; all containers used for transporting concrete shall be thoroughly washed out whenever mixing ceases.
- H Runs and gangways for concrete transporters and mains runs for foot traffic shall not be supported or allowed to bear on the fixed reinforcement.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Placing

- A Concrete shall be placed while still sufficiently plastic for adequate compaction.
- B At all times when reinforced concrete is being placed, a competent steel fixer shall be in continuous attendance on the concretors; he shall adjust and correct the position of any reinforcement, which may be displaced.
- C The Contractor shall keep on site a complete record of the works showing the time and date when concrete is placed in each part of the works. This record shall be available at all times for inspection by the Employer's Representative.
- D Where concrete grout is required to be placed in the cells of hollow concrete blockwork, relevant clauses in the blockwork section refers.

Compacting

- E Concrete shall be thoroughly completed during placing and shall be carefully worked around all reinforcement and embedded fixtures and into the sides and corners of the formwork, using a heavy-duty, high frequency vibrator.

Curing

- F All surfaces of freshly placed structural concrete shall be covered with an approved material and kept constantly wet for 7 days except that for concrete made with rapid hardening cement the minimum curing period shall be 3 days.
- G Soffit and side forms left in position will be regarded as effective in keeping those surfaces wet.
- H The Contractor shall notify the Employer's Representative of the system and methods of curing he proposes to use for all structural concrete members before the works are recommended.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

STRIKING OF FORMWORK

General

- A The structure shall not be distorted, damaged or overloaded in any way by the removal of the formwork from concrete members.
- B The responsibility for the safe removal of any part of the formwork or strutting shall rest with the Contractor.

Record of Temperatures

- C A maximum and minimum thermometer of approved design shall be kept on site close to the works for measuring atmospheric shade temperature.

Minimum Striking Times

- D The minimum striking times for removing formwork to structural members shall be determined from the table below. The times are given in days, where each day is to be of 24 hours duration. Before the formwork is removed from any structural member the Contractor shall ensure that the concrete in that member has attained sufficient strength for striking to proceed.

<u>Location</u>	<u>Minimum Time</u> <u>C.P.C. Concrete</u>	<u>Minimum Time</u> <u>R.H.P.C. Concrete</u>
Slab soffits (structural props left in)	4	3
Beam soffits (structural props left in)	6	4
Slab structural props	10	6
Beam structural props	14	8

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

CONCRETE IN WATERTIGHT CONSTRUCTION

General

- A All work required to be watertight in the finished works will be so indicated on the drawings.
- B The Contractor shall include in his rates for any waterproofing additives he proposes to use but the use of such additives shall be subject to the prior approval of the Employer's Representative.
- C Where in the opinion of the Employer's Representative damp patches or leakage of water in the finished works are due to incorrect placing or inadequate compaction of the allowance for shrinkage, the affected work shall be made good at the Contractor's expense.

Water-Bars

- D Where shown on the drawings water-bars of approved material, make and design shall be incorporated in construction joints in concrete in watertight construction. Water-bars shall be jointed in an approved manner.
- E Before commencing the works the Contractor shall obtain the Employer's Representative approval of the methods to be used to support and maintain the water-bars in the correct locations while the concrete is placed.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

FINISHING WORK TO CONCRETE FACES

General

- A After removal of the formwork, no treatment of any kind other than that required for curing the concrete, shall be applied to the concrete faces until they have been inspected by the Employer's Representative.

Plastered Concrete Faces

- B All concrete faces which are to be plastered or rendered in the finished works shall be thoroughly hacked with a suitable tool to provide an adequate surface key.
- C The use of adhesives or other preparations on any concrete faces shall be subject to the prior approval of the Employer's Representative.

Working Tolerances

- D Unless otherwise indicated on the drawings, the setting-out dimensions and levels of the finished works shall be within the maximum tolerances given below.

<u>Description</u>	<u>Max. Tolerance</u>
All dimensions of 3m and over	± 5mm
All dimensions less than 3m	± 3mm
Slab top surfaces levels (all points in the surfaces)	± 5mm

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

STANDARD OF WORKMANSHIP

- A At any construction joint in a continuous concrete face, any discrepancy in the face across the joint shall not exceed 3mm.

Defective Work

- B Where in the opinion of the Employer's Representative the finished works, or the materials or workmanship in any part of the works, do not comply with all the relevant requirements of this specification, that part of the works shall be classed as defective work.
- C All work classed as defective work shall be cut out and removed from the works and replaced to the satisfaction of the Employer's Representative.
- D The extent of the work to be removed and the methods to be used in the removal and replacement of this work shall be in accordance with directions of the Employer's Representative. In all cases, cutting of the defective concrete work shall be carried back to a satisfactory construction joint before the replacement of the defective work and any other work thereby affected is commenced.
- E All removal and replacement of defective work and all costs or charges arising from such removal or replacement shall be at the Contractor's expense.

Other Matters

- F Where additional information is necessary the recommendations of ACI Manual of Concrete Practice will be deemed to apply.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

CONCRETE WORK (CONT'D)

Pricing

A Prices for concrete work shall include: -

1. All considerations arising from the specification.
2. Where concrete is cast in earth cuts i.e. not described as filled into formwork for any additional concrete over the size stated or shown necessitated by the irregularity of the surface retaining the concrete.
3. Cutting, bends, hooks, tying wire, distance blocks and ordinary spacers for reinforcement. The total weights of reinforcement given have been calculated at the weights given in the relevant American Standard.
4. All cleaning and oiling of forms and making good of exposed concrete surfaces after removal of formwork e.g. cutting off projecting fins, filling out small voids and brushing to exposed aggregate.
5. Where formwork is described as "wrought" or "dressed" for producing a fair-face finish either by lining the formwork with suitable material and/or filling in voids etc., and rubbing down to a smooth finish to the Employer's Representative or his authorised representative 's approval.
6. Transporting concrete, hoisting or lowering, placing in position, working around reinforcement where necessary and curing.
7. Formwork including all temporary supports and strutting, notches, overlaps and passing at angles, easing, striking and removing.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK

Cement and Water

- A Cement and water shall be as described under "CONCRETE WORK."

Sand

- B Sand shall be fine aggregate of natural sand or crushed natural stone complying with ASTM C 144 Samples of sand are to be submitted to the Employer upon request for approval at any time during the contract period. If and when considered necessary all sand shall be site washed to the Employer's satisfaction without extra charge.

Plasticizer

- C Plasticizer must be of a known and approved brand and to be used strictly in accordance with the manufacturer's instructions.

Concrete Blocks

- D Concrete blocks shall conform to ASTM C55 "Specification for Concrete Building Brick" of first quality, good, sound, hard and well cured, and true to shape and size and shall be rough textured blocks unless otherwise described.
- E Load bearing blocks shall have an average crushing strength (average of 5 units) of not less than 7 N/mm measured over the gross area. Concrete masonry units shall be tested in accordance with ACI 530 and ASTM C140. The Contractor shall allow for testing five (5) random units prior to commencement of the job. The units shall be selected in the presence of the Employer's Representative's representative.
- F Blocks for fair faced work shall be smoothed textured, modular sized units of first quality with all edges and faces true and undamaged. Special blocks may be used at angles and jambs. Blocks shall only be cut with a mason's saw or other tools obtained from or recommended by the manufacturer.
- G All blocks shall be carefully off-loaded and stacked, care being exercised at all stages to ensure that all edges and faces are kept true and undamaged.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK (CONT'D)

Mortar

- A Mortar for unit masonry is to adhere to ASTM C270. Mix mortar for blockwork of cement and sand (1:3) mixed on site in a similar manner to concrete including a plasticizer additive at the rate of quarter pint of plasticizer to every bag of cement and use within one hour of mixing. Mortar which has commenced to set is not to be knocked up again for re-use.
- B Mortar shall be mixed by placing one half of the water and sand in the operating mixer then adding the cement, plasticizer and the remainder of sand and water. After all the ingredients are in the batching mixer, they shall be mechanically mixed for not less than three minutes. Hand mixing shall be employed unless specifically approved. Mortar should be re-tempered to maintain high plasticity but shall not be used after 1½ hours from the addition of water to the mix.
- C The mixer drum is to be thoroughly washed out at the completion of work each day and as necessary during working hours.
- D No dimension shall differ by more than 3mm from the specified standard dimension. "Standard Dimensions" refer to the manufacturer's designated dimension and are not to be confused with "nominal dimensions" of modular size units which are equal to the standard mortar joint.
- E Minimum face-shell thickness and web thickness shall be as specified below:-

<u>Nominal Unit Width</u>	Minimum Face-Shell	<u>Web Thickness</u>
150 mm	25 mm	25 mm
200 mm	32 mm	25 mm
250 mm	35 mm	28 mm
300 mm	38 mm	28 mm

- F Measurements shall be the average of 5 units taken at the thinnest point.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK (CONT'D)

Decorative Blocks

- A Decorative blocks shall be as specified and as manufactured by Bestcrete Limited (Trinidad) or other equal and approved and shall be of uniform shape, size strength and texture.

Reinforcement

- B Reinforcement for blockwork shall be "Dur-o-wall" or other equal and approved inserted in the block courses as described with 250mm minimum laps at ends and continuous joints at corners and junctions of walls.
- C Where blockwork is reinforced with rod reinforcement, prices are to include for setting the ends of the rod reinforcement into the concrete base and threading through the hollows of blockwork.

Wall Ties

- D Wall ties shall be non-ferrous and must be used only where instructed by the Employer.
Wall ties shall not be used where a sufficient bonding of blockwork was necessary.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK (CONT'D)

Laying Blocks

- A At the time of laying all masonry units shall be free of excessive dirt and dust. Proper masonry units shall be used to provide a minimum of cutting. Where cutting is necessary, cuts shall be neat and true. Where masonry is to be bonded to a concrete beam or footing, the concrete surface shall be cleaned with laitance remover. Unless shown otherwise, blocks are to be laid in uniform courses with regular running bond.
- B Units shall be laid to preserve the unobstructed vertical continuity of the cells to be filled. Such cells shall be not less than 60mm x 75mm clear.
- C Filled cores are to be kept clear of all overhangs, mortar droppings and other material. Clean out holes shall be provided for each pour by leaving out every other unit in the bottom courses of this section being poured. These cleanouts shall be sealed after inspection.
- D Mortar joints shall be straight, clean and uniform in the thickness and shall be tooled as shown on the plans. Joints shall be tooled in a manner which compacts the mortar, pressuring the excess mortar out of the joint rather than dragging it out. The mortar shall be well bonded to the block at the edges. Tooling shall be done when the mortar is partially set but still sufficiently plastic to bond. Where walls are to receive plaster, the joints shall be raked out. Joints which are not tight at the time of tooling shall be raked out, pointed and then tooled. If it is necessary to move a unit after it has once been set in place, the unit shall be removed from the wall, cleaned and set in fresh mortar. Joints shall be 10mm thick unless specified otherwise and shall have full coverage on face-shells, webs and vertical ends. Where reinforcement is used in horizontal mortar joints, the thickness of the joints shall be at least twice the thickness of the diameter of the reinforcement.
- E When hot, dry weather exists, units shall be wetted with a light fog spray but not immersed into any vessel. The work shall be carried up course by course and no one portion shall be raised more than four courses at any time. All perpend and quoins shall be kept strictly true and square and carefully levelled through every second course.
- F Fair faced concrete block walls are to be wire brushed after the first set of the mortar or as necessary in order to properly clean the faces and avoid mortar stains. All damaged and stained blocks are to be cut out and replaced at the contractor's expense.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK (CONT'D)

Filling to Cores

- A Where vertical reinforcement is specified or described, the reinforced cells are to be filled with concrete for the full height of wall and as specified.
- B Fill shall consist of concrete mix 20 N/mm². Sufficient water shall be added to make a workable mix that will flow into all the parts of the masonry cell without separation or segregation. The slump of the fill should be in the region of 75mm to 100mm. Fill shall be placed before any initial set occurs and in no case more than 1½ hours after water had been first added. Admixtures may be used subject to prior approval by the Employer.
- C The concrete fill shall develop a minimum compressive strength of 20 N/mm² at 28 days when tested as follows:
- (i) Concrete fill shall be placed in a cell of hollow concrete block of the type being filled. The prism of concrete so formed shall be separated and tested in compression in the same way as concrete test cubes except that any rough surface may require to be capped. For ease in separating the prism, the cell may be lined with porous paper. A minimum of ten preliminary tests will be required plus at least two tests for each day on which filling is undertaken, or as required by the Employer.
- D Filling shall not be placed to a height of more than 600mm at one time and there shall be a minimum interval of 60 minutes between pours. When work is stopped for one hour or longer, the horizontal construction joints shall be formed by stopping all tiers at the same elevation with the fill 38mm below the top. Fill shall be compacted with a suitable pencil vibrator.
- E The final pour where a block wall is constructed to or about a fixed soffit shall be carried out through a chute fixed to the side of the wall so that concrete fill may be poured to soffit level. The resultant surplus may be removed and cleaned off as soon as the concrete has reached an initial set. After filling walls shall be hosed down to clean off scum and stains. No concrete shall be placed until such time as the masonry mortar has sufficiently hardened to prevent "blow outs."
- F Where the top of the 'filled' wall is exposed, it shall be kept moist for curing purposes for at least three days after pouring.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

BLOCKWORK (CONT'D)

Cutting, Chasing etc.

- A Cutting blocks shall be kept to a minimum - half blocks and special blocks shall be used. When cutting of units is necessary, a bolster shall be used in preference to a trowel.
- B Sleeves, chases and holes shall, as far as possible be provided during erection of the blockwork, or purpose-made chased units to hollows of hollow blocks be used for pipes, sleeves, conduits etc., as directed by the Employer. Chasing of completed walls or the formation of holes shall only be carried out with the approval of the Employer, and then only by mechanical drill or tool designed to cleanly cut the blocks. Horizontal or diagonal chases will not be permitted.
- C Chases in walls to be rendered shall be filled with cement and sand mortar before rendering.
- D No chasing will be allowed to fair faced surfaces boxes and conduits in fair faced blockwork may be inset by sawn openings in blockwork.

Joints

- E Blockwork to be plastered shall have all joints raked out to a depth of 10mm to form additional key.
- F Fair faced blockwork is to have all horizontal joints raked out and foiled to a depth of 10mm, and all vertical joints flushed up.
- G All striking and flushing of joints shall be done as the work proceeds and all split mortar washed off block faces with clean water.

Fixing

- H Generally, door, window and rough ground fixings shall be by toggle bolts or expanding rag bolts with mechanically drilled holes as required.

Pricing

- I Prices are to include for all considerations arising from this specification.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

METALWORK

Generally

- A All metal work shall be fabricated by a specialist firm or firms approved by the Employer. Before any order is placed, the Contractor shall obtain the approval of the Consulting Engineer of the firm or firms he intends to use for the fabrication of metal work.

Drawings

- B All work shall be carried out in accordance with the drawings supplied by the Employer's Representative. If required the Contractor shall submit shop drawings for inspection by the Consulting Engineer.

Materials

Mild Steel

- C Mild steel shall conform to the requirements of ASTM A615. The surfaces of steel shall be smooth, clean and free from rust, loose scale which shall be removed from the steel prior to dispatch for the works. Any subsequent accumulation of dirt, oil or grease shall be cleaned off immediately prior to erection.

Galvanised Work

- D Iron and steel where galvanised shall be entirely coated with zinc after fabrication. The finished surface shall be smooth, clean and uniform.

Nuts, Bolts and Washers

- E All structural steel nuts shall comply with the requirements of ASTM A563, grade DH, galvanised.
- F All structural steel bolts shall comply with the requirements of ASTM A325, type 1 galvanised.
- G All structural steel bolts shall be required to protrude a minimum of 2-3 complete thread lengths beyond the nut, post tightening (unless otherwise specified in the structural drawings)
- H All structural steel washers shall comply with the requirements of ASTM F436, type1 galvanised.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

METALWORK (CONT'D)

Workmanship

Welding

- A All welds shall penetrate the full depth of the metal using an approved method. Where hollow sections are used the welds shall continue completely around the sections to be jointed.
- B Fillet welds only shall be used.
- C All soldered, or welded joints etc., and securely anchor to the structure all metalwork and make good the surfaces to which they are fixed.

Painting of Works

- D Where work is described as primed after fabrication the Contractor shall give the Employer's Representative at least 48 hours' notice, so that he may, if he wishes, inspect and approve the work before priming commences.
- E Where described as primed works, metalwork shall be freed from rust, mill scale, welding flux residue and shall be dried immediately prior to painting with primer.
- F The primer shall be touched up with similar primer if damaged by subsequent handling.

Leave Clean

- G Clean all exposed metal surfaces on completion with water or an approved petroleum product such as methylated spirit or kerosene. Make good any damage caused by the use of an improper cleaning material.

Pricing

- H Prices to include for all considerations arising from the specification.

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

FENCING

General

- A All materials supplied should conform to the current ASTM Standards – ASTM F2453 standard specification for welded wire mesh and ASTM F1083-18 standard specification for pipe, steel, hot dipped zinc coated (galvanized) welded for fence structures.

Mesh Fence

- B For medium security fences, wire wall thickness should be in the range of 4 - 5mm minimum. 2.0 to 2.5 meter wide fixed panel, height approximately 2.5 meter made of welded mesh with reinforcing transversal grid. Galvanized coated and painted according to manufacturer's specification.

Poles

- C Medium security galvanized and painted square-pipe steel poles intended for medium height fences according to manufacturer's specification.

Duplex Coating

- D Coating shall be in accordance with each manufacturer's specification for the steel and also meet the minimum requirements of the relevant ASTM standards for paint or powder coating of steel.

Standard Components

- E Painted and galvanized metallic fittings
Wide-head stainless steel pop rivet
UV treated plastic pole cover
Pole
Approximately 2.5m wide mesh
16mm bolts

Optional Components

- F Carriage bolt and high security bolt
Wall toppings with spikes
Security metal fittings

MOWT GUAICO COMPLEX - SECURITY FENCING

MATERIALS AND WORKMANSHIP

FENCING

Installation

- A Assembly of Wire Fencing system including all panels, poles fittings and accessories shall be done strictly in accordance with the manufacturer's instructions. Any deviations warranted shall be brought to the attention of the Employer's Representative for approval.

Irregular Ground

- B For slopes less than 10%, it is recommended to embed a higher pole with overlapped mesh.
- C For steep slopes it is advisable to drive double piling, this is poles embedded less than 2.53 meters from each other.

Trade Literature

- D All relevant trade literature or typed information to enable a selection to be made must be Included with the Tender.

Works Programme

- E The Contractor shall submit a programme of works to be undertaken in the format and time period as stipulated in the Tender documents.

Pricing

- F Allow in pricing for all incidental work directly associated with the works which, at the time of the tendering, could reasonably not have been foreseen. Prices shall be deemed to include for making good of all other work disturbed in the execution of the works described with material and workmanship to make in every respect the surrounding work otherwise described.

BILL NO 3
WORKS TO BE DONE

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

NOTES:

THE CONTRACTOR IS ADVISED TO VISIT THE SITE AND ACQUAINT HIMSELF WITH EXISTING CONDITIONS BEFORE PRICING ITEMS IN THIS SECTION

- i. The Contractor is to note that the items in the Works to Be Done Section are not measured strictly in accordance with the Standard Method of Measurement of Building Work. The descriptions of work in the various Sections of the Works To Be Done of the Bills of Quantities are to be read in conjunction with the relevant Technical Specifications for each of the Work Sections and more so the Tender Drawings. The Contractor is to include in the price of the work items, any considerations arising from the said specifications.
- ii. The Contractor is to include everything required for the proper execution of the Works and which may reasonably be inferred from the tender drawings and the technical specifications for the respective sections of work.
- iii. The Contractor is responsible for ensuring the accuracy of all site measurements and dimensions prior to and necessary for the execution of the works.
- iv. The Contractor is solely responsible for setting out and maintaining the accurate alignment and all relevant levels for the proposed works for the duration of the project.
- v. The Contractor shall be solely responsible for evaluating the need for, design of, monitoring of measures to prevent damage to existing/adjacent structures or underground utilities on or off the right of way. These measures shall include, but not be limited to selection of construction method and procedures, which will prevent over excavation and excessive migration activity and protection of utilities.
- vi. The Contractor shall as soon as any movements are detected in adjacent structures, stop construction and notify the Engineer and take immediate remedial actions to prevent further damage to existing/adjacent structures. The Contractor and Engineer shall review the current installation procedures.

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

		Qty	Unit	Rate	\$	¢
	SUBSTRUCTURE					
	<u>SECURITY WIRE WALL FENCE (CONT'D)</u>					
	EXCAVATION AND EARTHWORK					
	The Contractor may include here for any items in the Technical Specifications and Drawings applicable to the Substructure and which may not have been priced elsewhere.					
	(All Provisional)					
	For Works in this Section refer to drawing Specification and Notes nos. Sheet no. 00; Topographical Site Plan no. 01:19:2047:205 Sheet no 01. and Partial Fence Elevation and Details					
A	Cut down trees and grubbing up their roots exceeding 600mm but not exceeding 900mm girth.		Item			
B	Clear site of bushes, scrub, undergrowth and the like and grubbing up their roots including cutting down trees not exceeding 600mm girth and grubbing up of their roots (Approximately 262metres).		Item			
C	Excavate trench to receive horizontal ground beam (164 x 400 x 400mm) starting at formation level and not exceeding 1.50 meters deep.	27	m ³			
D	Auger pit to receive insitu reinforced concrete (RC) pile starting at formation level and not exceeding 3.75 meters deep.	33	nr.			
E	Return fill and ram selected excavated material around foundation.		Item			
F	Load up and remove surplus excavated material from site.	20	m ³			
	To Collection				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

		Qty	Unit	Rate	\$	¢
	SUBSTRUCTURE					
	<u>SECURITY WIRE WALL FENCE (CONT'D)</u>					
	CONCRETE WORK					
	Reinforced In-situ Vibrated Concrete 28 N/mm2 to -					
A	R.C pile over 300mm thick.	9	m ³			
B	Ground beam 400mm thick	27	m ³			
C	Concrete blinding to ground beam	4	m ³			
D	Hardcore filling to apron	17	m ²			
	High Yield Steel Reinforcement:-					
E	R.C. Pile bar 16mm diameter.	1037	kg			
F	Ground beam bar 12mm diameter.	1162	kg			
G	12mm steel anchors to R.C. ground beam.	154	kg			
H	10mm steel binders to R.C. ground beam.	560	kg			
I	10mm dia. spiral steel reinforcement bar to pile.	322	kg			
	To Collection				\$	
	<u>COLLECTION</u>					
	Page Nr. 3/2					
	Page Nr. 3/3					
	Page Nr. 3/4					
	Page Nr. 3/5					
	SUBSTRUCTURE CARRIED TO SUMMARY				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

		Qty	Unit	Rate	\$	¢
	<u>SECURITY WIRE WALL FENCE (CONT'D)</u>					
	The Contractor may include here for any items in the Technical Specifications and Drawings applicable to the Fencing and which may not have been priced elsewhere.					
	The following work comprises the supply & installation of proprietary Medium Security Wire Wall fencing with razor wire attached to Fence post at top of Fence as shown on Engineer's Drawing Partial Fence Elevation and Details.					
	FENCING					
	(All Provisional)					
A	150 mm x 150mm x 10mm thick base plate with 6mm filet weld to bottom of post (see detail).	65	nr.			
B	Fixing device (nuts and bolts) to anchor fence panels to fence posts (according to manufacturer's specifications).	325	nr.			
C	16mm dia. X 250mm mild steel anchor bolts imbedded in ground beam to facilitate fence posts (including all accessories).	260	nr.			
D	25mm dia. PVC sleeves for bolts.	52	m			
	<u>Protection</u>					
E	Protect all work in this Section.		Item			
	To Collection				\$	
	<u>COLLECTION</u>					
	Page Nr. 3/7					
	Page Nr. 3/8					
	FENCING CARRIED TO SUMMARY				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

SUMMARY	PG NO.	\$	¢
<u>SECURITY WIRE WALL FENCE</u>			
DEMOLITION			
SUBSTRUCTURE			
CONCRETE WORK			
FENCING			
SECURITY WIRE WALL FENCE CARRIED TO GENERAL SUMMARY		\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

		Qty	Unit	Rate	\$	¢
	SUBSTRUCTURE					
	<u>EXTERNAL BLOCKWALL</u>					
	EXCAVATION AND EARTHWORK					
	The Contractor may include here for any items in the Technical Specifications and Drawings applicable to the Substructure and which may not have been priced elsewhere.					
	(All Provisional)					
	For Works in this Section refer to drawing GUAICO COMPLEX EXTERNAL BLOCKWALL/ PARTIAL ELEVATION BLOCKWALL AND DETAILS; FOUNDATION AND WALL DETAILS					
A	Cut down trees and grubbing up their roots exceeding 600mm but not exceeding 900mm girth.		Item			
B	Clear site of bushes, scrub, undergrowth and the like and grubbing up their roots including cutting down trees not exceeding 600mm girth and grubbing up of their roots (Approximately 97 meters).		Item			
C	Excavate trench to receive strip footing foundation starting at formation level and not exceeding 1.20 meters deep.	88	m ³			
D	Auger pit to receive vertical R.C. pile starting at formation level and not exceeding 3.75 meters deep.	42	nr			
E	Return fill and ram selected excavated material around foundation.	43	m ³			
F	Load up and remove surplus excavated material from site.	43	m ³			
	To Collection				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

		Qty	Unit	Rate	\$	¢
	SUBSTRUCTURE					
	<u>EXTERNAL BLOCKWALL</u>					
	CONCRETE WORK					
	Reinforced In-situ Vibrated Concrete 28 N/mm ²					
A	R.C concrete pile.	11	m ³			
B	Strip footing 400mm thick	30	m ³			
C	Concrete Blinding to strip footing	4	m ³			
D	R.C columns	2	m ³			
E	Capping beam	5	m ³			
F	Block wall	5.5	m ³			
	High Yield Steel Reinforcement:-					
G	16mm diameter to pile	1510	kg			
H	16mm diameter main bars to strip footing	767	kg			
I	16mm diameter cross bars to strip footing	1023	kg			
J	16mm diameter main bars to bottom of capping beam	307	kg			
K	16mm diameter main bars to columns	567	kg			
L	12mm starter bars to concrete in block work	493	kg			
M	12mm steel main bars to top of R.C. capping beam	173	kg			
N	10mm spiral steel bars to R.C. piles	399	kg			
O	10mm steel binders to capping beam	215	kg			
P	10mm steel binders to R.C. columns	188	kg			
	To Collection				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

	CONCRETE WORK	Qty	Unit	Rate	\$	¢
	<u>EXTERNAL BLOCKWALL</u>					
	The Contractor may include here for any items in the Technical Specifications and Drawings applicable to the Concrete Work Section and which may not have been priced elsewhere.					
	Reinforced In-situ Vibrated Concrete 28 N/mm ² to - (All concrete work above ground to be fairfaced: <u>Please note, rendering will not be accepted</u>)					
A	R.C Column	6	m ³			
B	R.C Capping beam	5	m ³			
C	Filling (1:2:4) to every other core of block wall 150mmthick.	7	m ³			
	High Yield Steel Reinforcement:-					
D	16mm dia. steel bars to R. C column	624	kg			
E	12mm dia. starter bars to every other core of blockwork.	579	kg			
F	12mm dia. bars to top of R. C capping beam.	346	kg			
G	10mm dia. steel for razor wire	181	kg			
	Mild Steel Reinforcement:-					
H	10mm binders @125c/c to R.C. column.	235	kg			
I	10mm binders @125c/c to top of R.C. capping beam.	289	kg			
	To Collection				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

	METALWORK	Qty	Unit	Rate	\$	¢
	<u>EXTERNAL BLOCKWALL</u>					
	The Contractor may include here for any items in the Technical Specifications and Drawings applicable to the Metal Work Section and which may not have been priced elsewhere.					
A	50 mm dia. G I pipe crabled into beam	42	nr.			
B	50mm x 50mm dia. Y arm to posts	42	nr.			
C	Galvanized steel razor barbed wire	97	m			
D	75 x 75 x 3mm HSS encased in concrete and crabled into R.C column with 10mm mild steel crabs connected to HSS via 6mm filet weld. (See detail on drawing PARTIAL FENCE ELEVATION AND DETAILS)	1	nr			
	To Collection				\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

WORK TO BE DONE

SUMMARY	PG NO.	\$	¢
<u>EXTERNAL BLOCKWALL</u>			
DEMOLITION			
SUBSTRUCTURE			
CONCRETE WORK			
BLOCK WORK			
METAL WORK			
EXTERNAL BLOCKWALL CARRIED TO GENERAL SUMMARY		\$	

BILL NO 4
DAYWORKS

MOWT GUAICO COMPLEX - SECURITY FENCING

DAYWORKS (CONT'D)

Generally

- A In accordance with clause 10.2 of the Conditions of Contract, where work arising under a variation order by the Employer's Representative cannot properly be measured and valued, the Contractor shall be paid on a day work basis. Such payments shall be the sum of the Prime Cost of such work calculated in accordance with the following "Definition of Prime Cost of" and the percentage additions to each section of the Prime Cost at the rates set out hereunder by the Contractor and recorded in the Appendix to the Conditions of Contract.

Definition of Prime Cost of Day work

- B This definition applies solely to day work carried out under or incidental to this building contract but does not cover day work ordered by the Employer's Representative to be carried out after the date of commencement of the Defects Liability Period, which may be the subject of a separate agreement.

SECTION (1) - LABOUR

- C (1) The amount of wages at the rates applicable to work men engaged on day works
- (2) The amount of wages paid at the rate applicable to workmen engaged on day work and operating mechanically operated plant and transport and erecting and dismantling other plant.
- (3) The time of principals, foremen, gangers and loading hands at the time rates for the trades practised when actually working with their hands, unless previously otherwise authorized.
- (4) The cost of overtime, where specifically ordered or subsequently sanctioned in writing by the Employer's Representative to be worked on day work.

SECTION (2) – MATERIALS

- (1) The cost of materials including delivery to site.
- (2) *Materials supplied from the Contractor's stock - at current prices plus* justifiable charges for handling and delivery to the site.

The cost of materials referred to in paragraphs (1) and (2) above is the cost less all trade discounts but including all discounts for cash not exceeding five percent (5%)

MOWT GUAICO COMPLEX - SECURITY FENCING

DAYWORKS (CONT'D)

SECTION (3) - PLANT

- A Use of mechanically operated plant and transport for the time engaged in day work.
- B Use of scaffolding, staging, trestles, tarpaulins and other non-mechanical plant, excluding hand tools, specially provided for day work operations for such time as the Employer's Representative considers reasonable.

SECTION (4) – OVERHEADS

- C
 - (1) Head Office charges.
 - (2) Site Supervision and site staff.
 - (3) Overtime other than that allowed under Section (1) to (4).
 - (4) Time lost due to inclement weather.
 - (5) Bonuses and all other incentive payments.
 - (6) Apprentices study time.
 - (7) Employer's Contribution to National Insurances, including graduated pensions.
 - (8) Contributions for annual and public holidays.
 - (9) Fares and time allowances for travelling.
 - (10) Subsistence and periodic leave allowance.
 - (11) Safety and welfare facilities.
 - (12) Third party and Employer's liability insurance.
 - (13) Sick pay or insurance in respect thereof.
 - (14) Tool allowance.
 - (15) Use, repair and sharpening of small tools.
 - (16) All non-mechanically operated plant, erected scaffolding and staging and trestles, protective clothing, artificial lighting, storage facilities and the like that may be in general on the site.
 - (17) All other liabilities and obligations whatsoever.
- D Overheads as defined above and profit shall be dealt with by means of a percentage addition to the totals of Prime Cost in each of the aforementioned Sections (1) (2) and (3) at the rates stated hereafter:-

MOWT GUAICO COMPLEX - SECURITY FENCING

DAYWORKS (CONT'D)

		\$	¢
<p>Note :- The items below are priced in accordance with the definitions at pages 3/1-4</p>			
<p><u>Labour</u></p>			
A	Include the Provisional Sum of \$10,000.00 for day work labour	10,000	00
B	Allow for percentage addition on Prime Cost of Labour for overheads and profit.	%	
<p><u>Materials</u></p>			
C	Include the Provisional Sum of \$10,000.00 for day work materials	10,000	00
D	Allow for percentage addition on Prime Cost of materials for overheads and profit.	%	
<p><u>Plant</u></p>			
E	Include the Provisional Sum of \$10,000.00 for day work plant.	10,000	00
F	Allow for percentage addition on Prime Cost of plant for overheads and profit.	%	
CARRIED TO GENERAL SUMMARY		\$	

MOWT GUAICO COMPLEX - SECURITY FENCING

DAYWORKS (CONT'D)

		UNIT	RATE	
			\$	¢
	Day work Schedule of Rates			
A	The Contractor is to put a rate in accordance with Day work requirements and instructions, against the items mentioned.			
B	Rates for plant shall be inclusive of driver, loaders and items necessary.			
	<u>Labour (Daily Paid Labour Only)</u>			
C	Site Supervisor			
D	Site Surveyor			
E	Foreman			
F	Carpenter and Mason			
G	Labourer			
H	Welder			
I	Steel Bender			
J	Light Plant Operator			
K	Driver (Heavy T)			
L	Operator (Back-hoe/Skid-Steer)			
M	Health, Safety and Environment (HSE) Officer			
	<u>Plant</u>			
N	Back-hoe/Skid-Steer			
O	Portable Compressor with 3 jack hammers (or other attachments) with 50ft. hoses and steel.			
P	Arch-welder including equipment			
Q	Concrete vibrator and operator			
R	Compressor, pneumatic drills, or paving breakers and operator			
S	10/7 concrete mixer and operator			
T	Dump truck			

GENERAL SUMMARY

MOWT GUAICO COMPLEX - SECURITY FENCING

		\$	¢
<u>GENERAL SUMMARY</u>			
PRELIMINARIES/GENERAL CONDITIONS	- Page 1/35		
MATERIALS AND WORKMANSHIP	- Page 2/43		
WORK TO BE DONE			
Security Wire Wall Fence	- Page 3/9		
External Block Wall Fence	- Page 3/20		
DAYWORKS	- Page 4/4		
		\$	
Contingency @ 10%		\$	
SUB-TOTAL		\$	
VALUE ADDED TAX (12.5% VAT)		\$	
TOTAL CARRIED TO FORM OF TENDER		\$	

SECTION 2

LIST OF PROVISIONAL SUMS

MOWT GUAICO COMPLEX - SECURITY FENCING

LIST OF PROVISIONAL SUMS

The following is a summary of the provisional sums which have already been described fully in and included in the Preliminaries and Work to be Done Section:-

<u>PROVISIONAL SUMS</u>				\$	¢
PRELIMINARIES					
Page No.	1/25	Item E	Testing Materials	10,000	00
Page No.	1/26	Item F	Scaffolding	50,000	00
Page No.	1/31	Item C	Administrative Supplies	25,000	00
DAYWORKS					
Page No.	4/3	Item A	Day work Labour	10,000	00
Page No.	4/3	“ C	Day work Material	10,000	00
Page No.	4/3	“ E	Day work Plant	10,000	00
TOTAL PROVISIONAL SUMS				115,000	00

SECTION 3

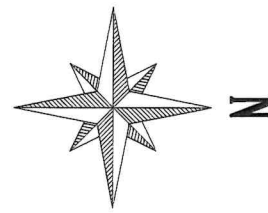
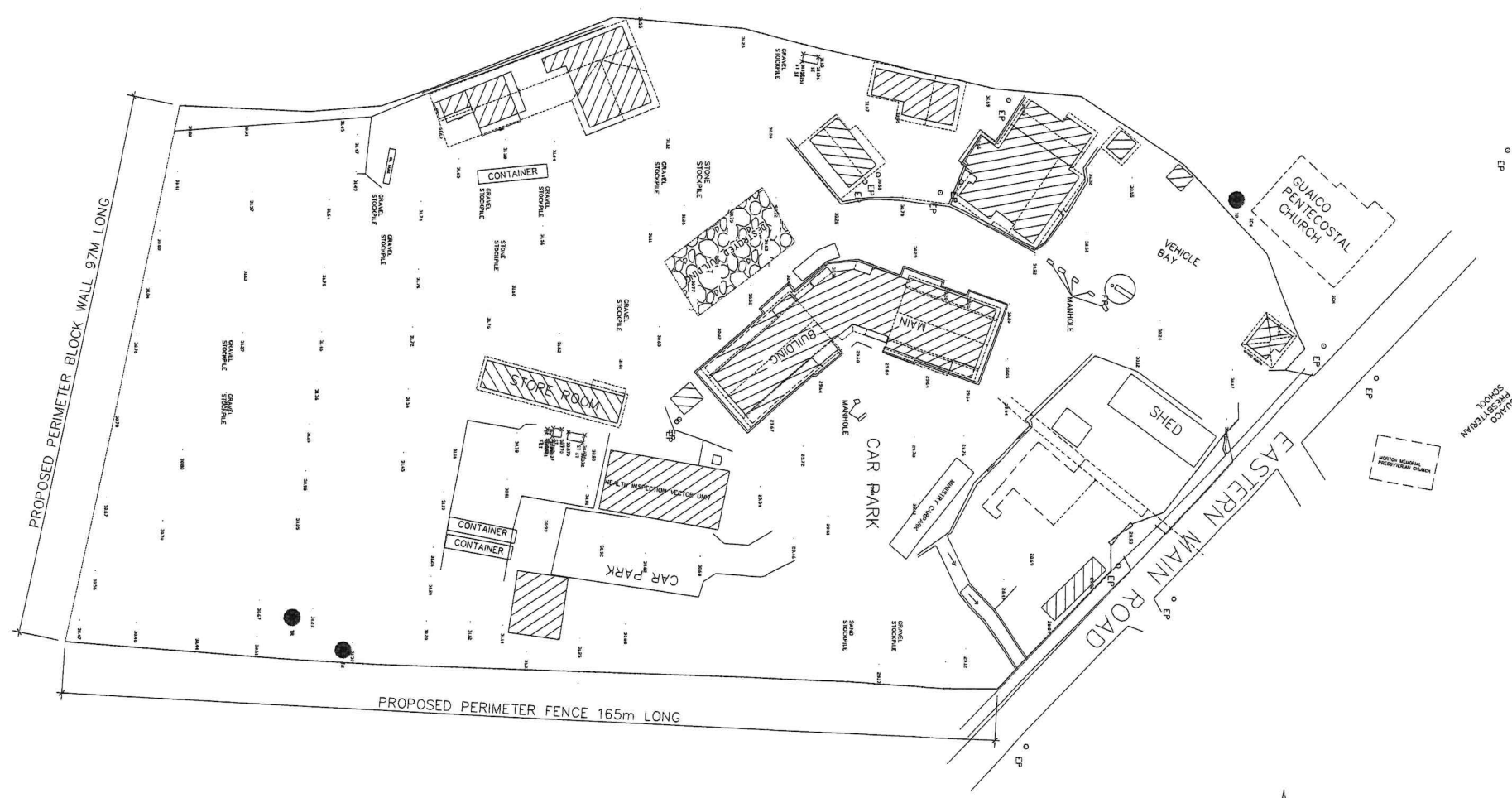
DRAWINGS

MOWT GUAICO COMPLEX - SECURITY FENCING

LIST OF DRAWINGS

The following is a list of drawings used in the preparation of this Tender Document.

ARCHITECT'S DRAWING NO.	(SHEET NO.)	TITLE
01:19:2047:205	01	TOPOGRAPHICAL SITE PLAN
ENGINEER'S DRAWING	(SHEET NO.)	TITLE
	00	SPECIFICATIONS AND NOTES
		PARTIAL FENCE ELEVATION AND DETAILS
		PARTIAL FENCE ELEVATION AND DETAILS
		FOUNDATION AND WALL DETAILS



FOR TENDER

TOPOGRAPHICAL SITE PLAN
scale 1/4"=1'-0"

NOTES

REVISION			
no.	date	description	name

no.	date	description	name

GOVERNMENT OF TRINIDAD AND TOBAGO
MINISTRY OF WORKS AND TRANSPORT
 ARCHITECTURAL BRANCH

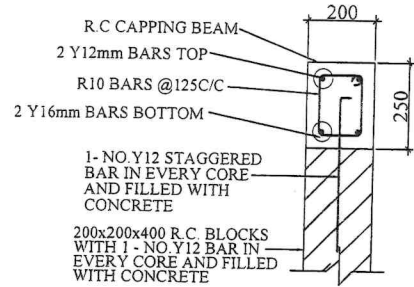
drawn	H.C-N	date: 2018	scale
checked		date	1/4"=1'-0"
ch. d'man.		date	

project
MINISTRY OF WORKS AND TRANSPORT
 SANGRE GRANDE LICENSING OFFICE
 road: sangre grande

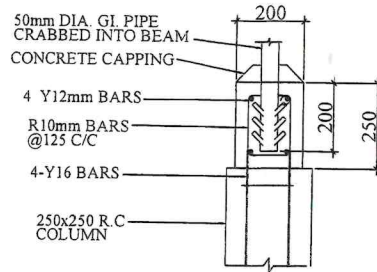
dwg. title
TOPOGRAPHICAL SITE PLAN

architect		date:
ch. architect		date:
dir. of const.		date:

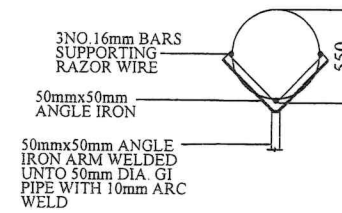
dwg. no.	sheet no.	rev. no.
01:19:2047:205	01	



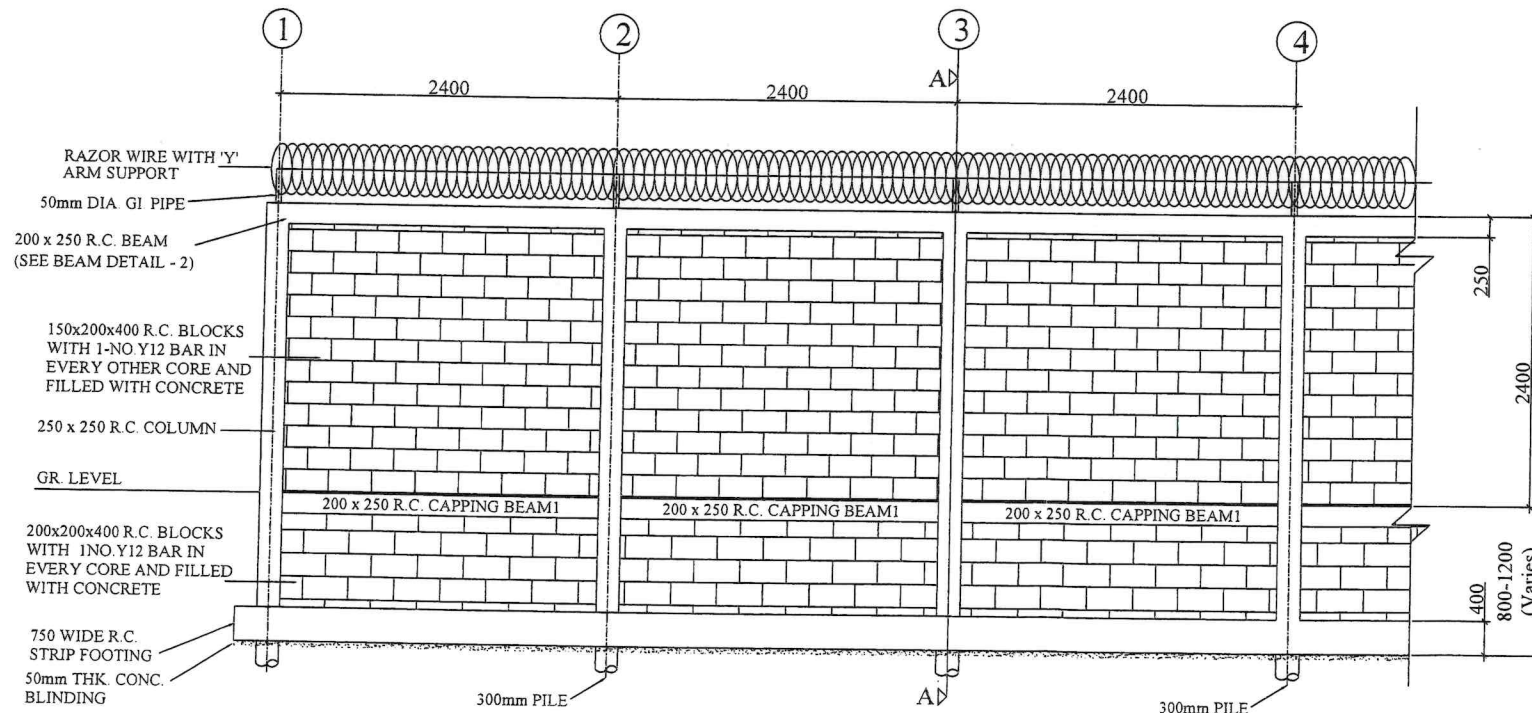
**TYPICAL CAPPING
BEAM DETAIL 1**
SCALE-N.T.S.



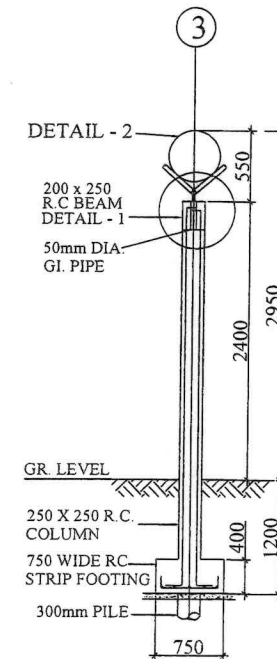
**BEAM DETAIL
DETAIL - 2**
SCALE-N.T.S.



DETAIL 2
SCALE-N.T.S.



PART ELEVATION OF BLOCKWALL
SCALE-N.T.S.




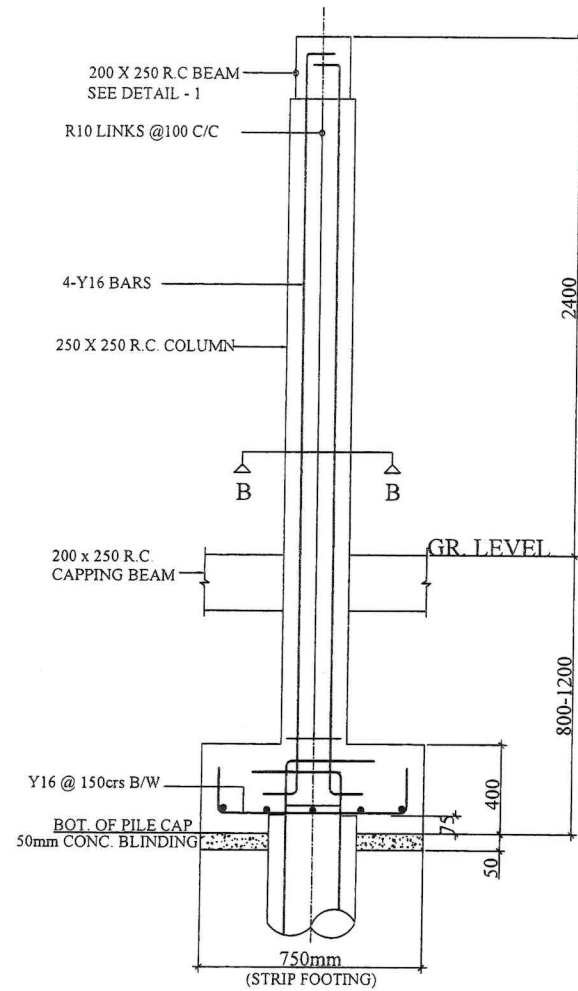
TYPICAL SECTION
SEE SECTION A-A

FOR TENDER

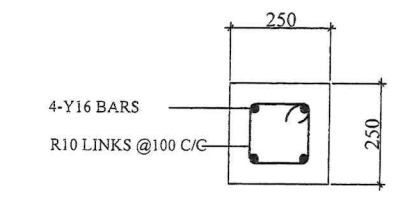
Alpraban
CHIEF DESIGN ENGINEER
8/10/2023

NOTES			
REVISIONS			
No	Date	Description	

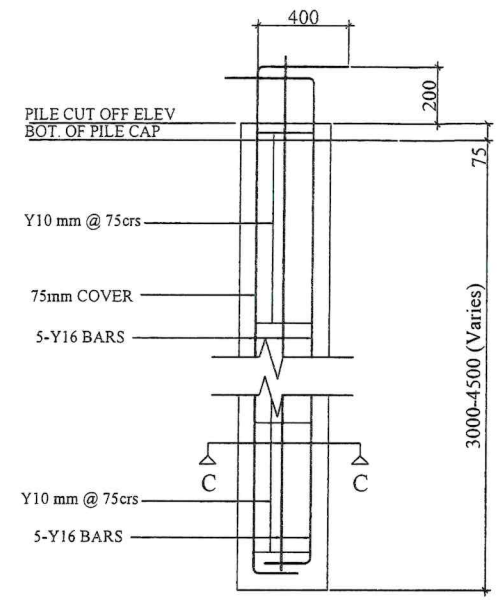

MINISTRY OF WORKS AND TRANSPORT
 PROJECT TITLE: **GUAICO COMPLEX EXTERNAL BLOCKWALL**
 DRAWING NUMBER: **PARTIAL ELEVATION BLOCKWALL AND DETAILS**
 Scale: N.T.S. Date: JULY 2023
 Chief Designer Engineer: *[Signature]*
 DRAWING NUMBER: **01** SHEET NO: **01** REV. NO: **01**



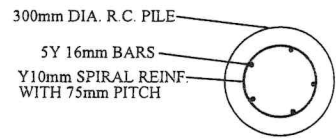
SECTION A-A
SCALE-N.T.S.



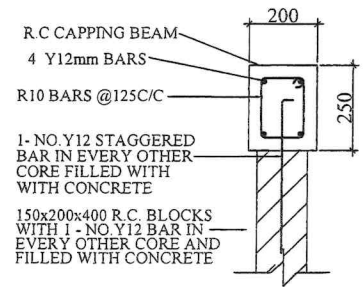
SECTION B-B
SCALE-N.T.S.



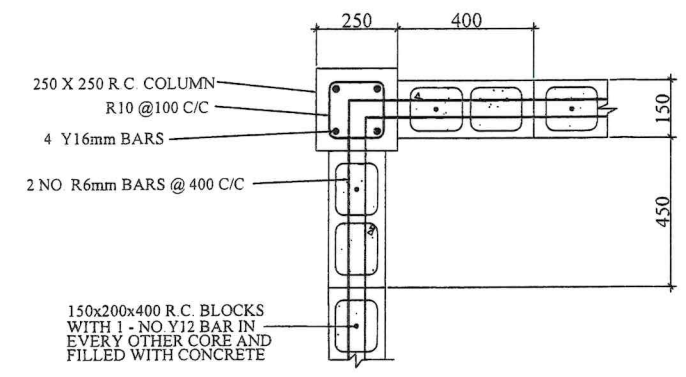
TYPICAL R.C. PILE DETAIL
SCALE-N.T.S.



SECTION C-C
SCALE-N.T.S.

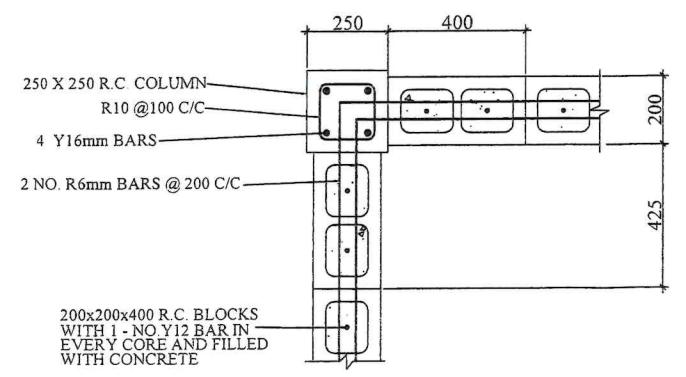


TYPICAL CAPPING BEAM DETAIL 2
SCALE-N.T.S.



TYPICAL CORNER DETAIL
SCALE-N.T.S.

Al Gharib
CHIEF DESIGNS ENGINEER
07/09/2023



TYPICAL CORNER FOUNDATION DETAIL
SCALE-N.T.S.

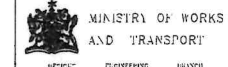
FOR TENDER

NOTES

REVISIONS

No	Date	Description

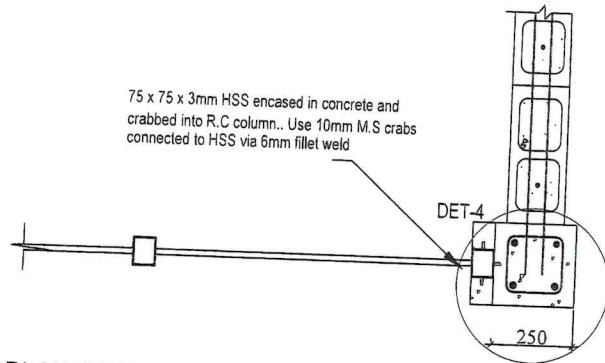
APPROVED BY THE ENGINEER OF STRUCTURAL WORKS



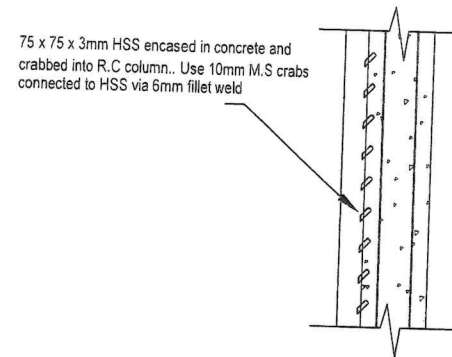
**GUAIKO COMPLEX
EXTERNAL BLOCKWALL**

FOUNDATION AND WALL DETAILS

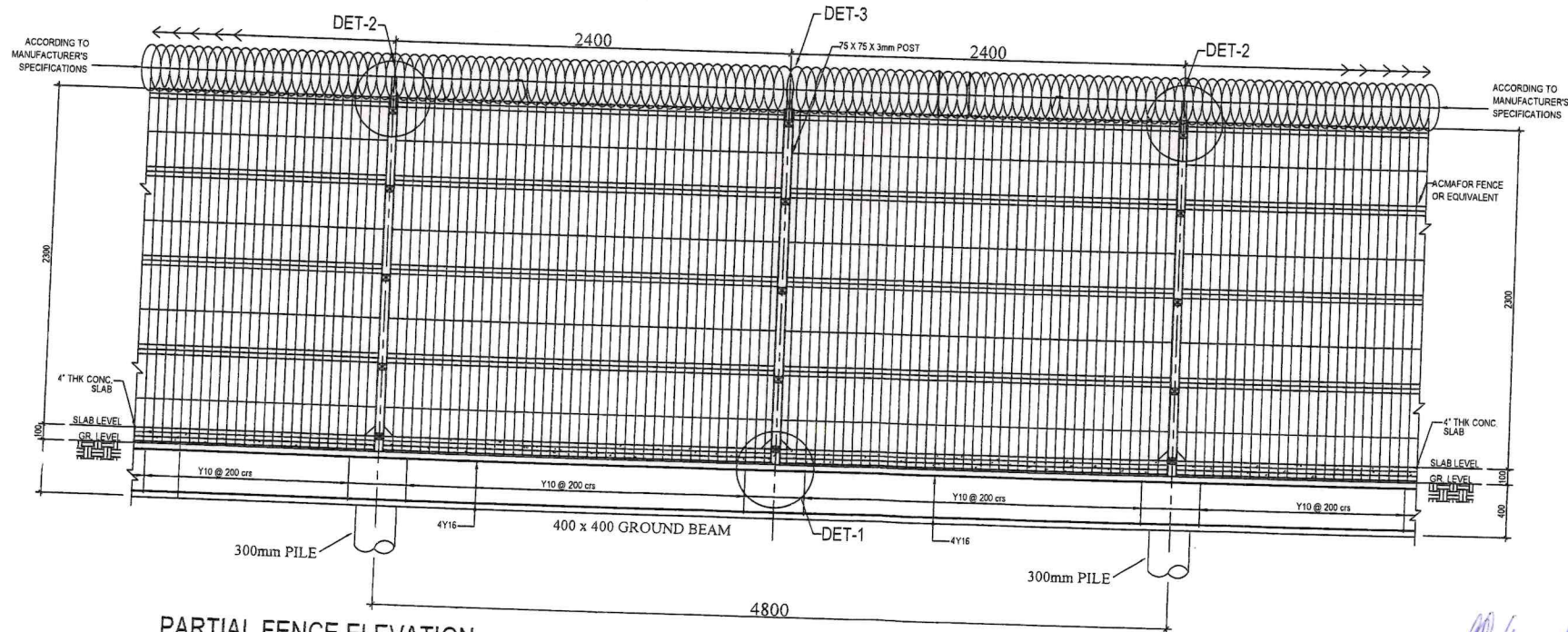
Designed	Drawn	Traced	Checked
Scale: N.T.S.		Date: 07/09/2023	
DRAWING NUMBER:	SHEET NO:	REV. NO:	
	02		



PLAN OF FENCE TO BLOCK WALL CONNECTION



ELEVATION OF FENCE TO BLOCK WALL CONNECTION



PARTIAL FENCE ELEVATION

FOR TENDER

[Signature]
CHIEF DESIGN ENGINEER
 08/09/2023

NOTES

- DO NOT SCALE DRAWINGS USE FIGURE DIMENSIONS ONLY
- FENCE WIRE TO BE 6 gauge (9mm) dia galvanised wire
- FENCE POSTS TO BE GALVANISED SQUARE HSS BARB METAL TO BE ASTM A36
- RAZOR WIRE TO BE GALVANISED STEEL RAZOR BARBED WIRE

REVISIONS

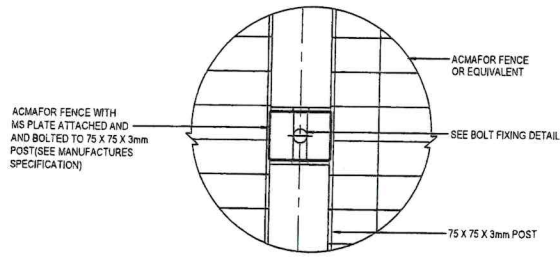
No	Date	Description

MINISTRY OF WORKS AND TRANSPORT

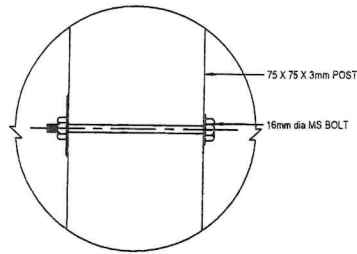
GUAICO COMPLEX SECURITY FENCING

PARTIAL FENCE ELEVATION AND DETAILS

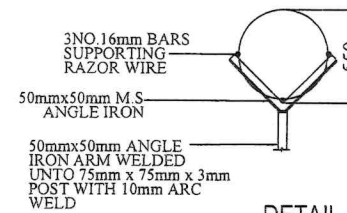
Designed	Drawn	Traced	Checked
Scale: n.t.	Date: JUN 2023		
DRAWING NUMBER	SHEET NO	REV. NO	
	01	1	



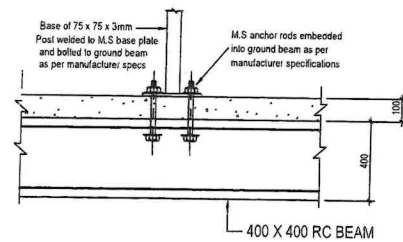
DETAIL-2



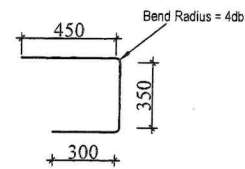
BOLT FIXING DETAIL



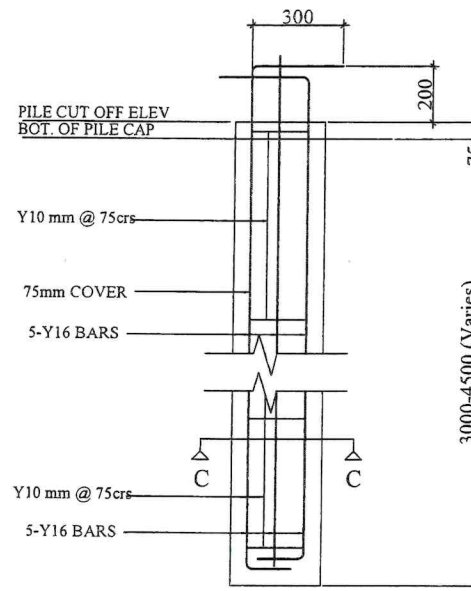
DETAIL - 3



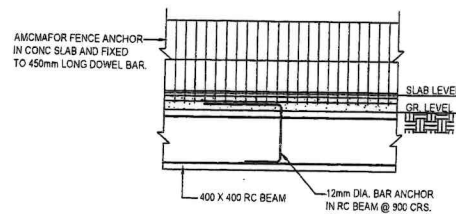
DETAIL-1



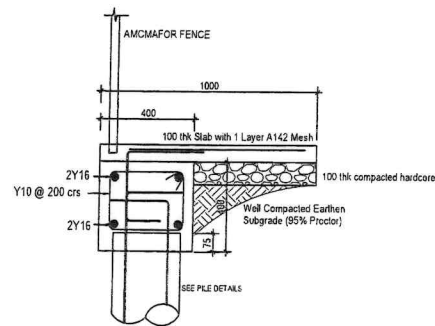
DOWEL BAR DETAIL



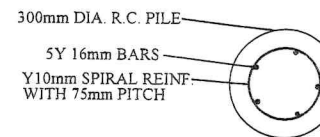
TYPICAL R.C. PILE DETAIL
SCALE - N.T.S.



LONGITUDINAL SECTION THROUGH RC BEAM SHOWING ANCHORAGE OF FENCING



TYPICAL SECTION THROUGH GROUND BEAM



SECTION C-C
SCALE - N.T.S.

Al Yarbun
CHIEF DESIGNS ENGINEER
07/09/2023

FOR TENDER

NOTES

1. DO NOT SCALE DRAWINGS USE FIGURE DIMENSIONS ONLY
2. FENCE WIRE TO BE 6 gauge (3mm) dia galvanized wire
3. FENCE POSTS TO BE GALVANISED SQUARE HSP BASE METAL TO BE ASTM A36
4. RAZOR WIRE TO BE GALVANISED STEEL RAZOR BARBED WIRE

REVISIONS

No	Date	Description

MINISTRY OF WORKS AND TRANSPORT

GUAICO COMPLEX SECURITY FENCING

PARTIAL FENCE ELEVATION AND DETAILS

Designed	Issued	Traced	Checked
Scale: N.T.S.	Date: JULY 2023		
DRAWING NUMBER:	SHEET NO:	REV. NO:	
	01	1	

SECTION 4

APPENDICES

APPENDIX A

ALLOWANCES IN RATES
(THIS SECTION MUST BE PRICED)

APPENDIX A

ALLOWANCES IN RATES

ALLOWANCES IN RATES

In order that the rates tendered may be used for pricing work not of similar character or not executed under similar conditions to that described in these Specifications Clause 10 (2) of the Conditions of Contract (refers), the Contractor shall state the average percentage allowed for profit and overheads in his foregoing rates under the following headings:

Average & Allowances in
rates for profit and
overheads

SECURITY FENCING

%

The contractor shall state here the percentage he will
Require for overheads and profit on Provisional Sum
Items in this Specification.

%

APPENDIX B

FORM OF TENDER

APPENDIX B

FORM OF TENDER

The Named Procurement Officer
Procurement Unit
Level 1
Ministry of Works and Transport
2 – 4 London Street
Port-of-Spain

Sir/Madam,

Re: **TENDER FOR THE SECURITY FENCING AT THE MINSITRY OF WORKS TRANSPORT,
GUAICO COMPLEX, GUAICO**

1 I/We having examined the Drawings, the Specifications and priced the Work to be Done Section issued in connection with these Works and having also visited the Site and having made due allowance for Addenda Nos.and ascertained the Conditions of Contract governing the performance of the works above, we do hereby offer to execute and complete the whole of the said works described and referred to therein for the sum of

.....
.....

Trinidad and Tobago Dollars (TT\$) inclusive of Value Added Tax.

2 I/We agree to hand over the work duly completed to the entire satisfaction of the within the period of..... weeks calculated from the date on which possession of site is given.

3 We undertake in the event of your acceptance to execute with you a formal agreement embodying all the Conditions and Terms contained in this offer.

4 It is understood that the Government of the Republic of Trinidad and Tobago does not bind itself to accept the lowest or any tender, nor to be responsible for any expenses incurred in estimating any tender received and that this offer shall remain open for acceptance for a period of ninety (90) days from the date of receipt of offer.

5 We agree to provide a Performance Security from a Bank or other recognized financial company for ten percent (10%) of the Contract Price for the due performance of our obligations and liabilities under the Contract.

APPENDIX B

FORM OF TENDER (CONT'D)

6 We agree that the Provisional Sums indicated shall be expended as directed or deducted in whole or in part if not required, without compensation.

Signedin the capacity of
.....duly authorized to sign tenders for
and on behalf of.....

(IN BLOCK LETTERS)

Address

Date Company Stamp

In the event of this tender being accepted, we, named hereafter, agree to become bound to the Government of Trinidad and Tobago in the sum of ten percent (10%) of the Contract Price for the due performance of the Contract.

Name of Surety
(IN BLOCK LETTERS)

Business

Address

Date Signature

Company Stamp

APPENDIX C

FORM OF AGREEMENT

APPENDIX C
AGREEMENT

The Employer is

_____ of

The Contractor is _____ of

The Employer desires the execution of certain Works Known as _____

OFFER

The Contractor has examined the documents listed in the Appendix which forms part of this Agreement and offers to execute the Works in conformity with the Contract for the sum of _____ (in words)

_____ (in figures) (_____)

or such other sum as may be ascertained under the Contract.

This offer, of which the Contractor has submitted two signed originals, may be accepted by the Employer by signing and returning one original of this document to the Contractor before

_____ (date)

The Contractor understands that the Employer is not bound to accept the lowest or any offer received for the Works.

Signature: _____ Date: _____

Name: _____ Authorized to sign on behalf of (organization)

Name): _____

Capacity: _____

ACCEPTANCE

The Employer has by signing below, accepted the Contractor's offer and agrees that in consideration for the execution of the Works by the Contractor, the Employer shall pay the Contractor in accordance with the Contract. This Agreement comes into effect on the date when the Contractor receives one original of this document signed by the Employer.

Signature: _____ Date: _____

Name: _____ Authorized to sign on behalf of (organization)

Name): _____

Capacity: _____

APPENDIX D

FORM OF PERFORMANCE SECURITY

APPENDIX D

SPECIMEN FORM OF PERFORMANCE SECURITY

The following Specimen Form of Performance Security is given solely for the Contractor's guidance

KNOW ALL MEN BY THESE PRESENT that we

.....

a Company duly incorporated under the Companies Ordinance Ch. 31 No. 1 and duly continued under the Companies Act Ch: 81:01 of the laws of Trinidad and Tobago and whose registered office is at

.....

in the Republic of Trinidad and Tobago (hereinafter referred to as "the Contractor") of the One Part and.....a Company duly

incorporated under the Companies Ordinance Ch. 31 No. 1 and continued under the companies Act 1995 and having its registered office at

.....

in the Republic of Trinidad and Tobago (hereinafter called "the Surety") of the Other Part are held and firmly bound unto the Government of the Republic of Trinidad and Tobago (hereinafter referred to as "the State") in the sum of

.....(Amount in Words) (TT\$.....)

Trinidad and Tobago Currency being ten percent (10%) of the contract sum for the payment of which sum WE the Contractor and Surety bind ourselves and each of us and our successors and assigns jointly and severally by these presents.

SEALED with our respective Common Seals and dated this.....day of.....20.....

APPENDIX D

SPECIMEN FORM OF PERFORMANCE SECURITY (CONT'D)

WHEREAS by an Agreement hereto annexed and marked 'A' bearing date the..... day of20... and made between the Trinidad and Tobago Police Service (TTPS) for and on behalf of the Republic of Trinidad and Tobago (hereinafter referred to as "the Employer") of the One Part and the Contractor of the Other Part, the Contractor has agreed to enter into a Contract with the Employer for the SECURITY FENCING WORKS AT THE MINISTRY OF WORKS AND TRANSPORT, GUAICO COMPLEX, GUAICO (hereinafter referred to as "the Works") in conformity with the said Contract in the manner and subject to such terms, provisions and stipulations as in the said Contract are particularly set forth.

AND WHEREAS it is intended that these presents should be construed as one with the said contract.

AND WHEREAS the Surety has agreed to become Surety for the due observance and performance by the Contractor of all and several the conditions matters and things under the said Contract to be by them observed performed and done.

NOW THE CONDITION of the above written Performance Security is such that if the Contractor or its successors and assigns shall duly perform and observe all and every the covenants clauses provisos conditions and stipulations in the said contract mentioned or contained and on the Contractor's part to be performed observed and fulfilled according to the true purport intent and meaning thereof or if on default by the Contractor the Surety shall satisfy and discharge at the damages sustained by the Employer thereby up to the amount of the above-written Performance Security then the above-written Performance Security shall be null and void but otherwise the same shall be and remain in full force and effect and no alterations in terms of the said Contract made by agreement between the Employer and the Contractor in the extent or nature of the Works to be constructed or completed thereunder and no allowance of time by the

APPENDIX D

SPECIMEN FORM OF PERFORMANCE SECURITY (CONT'D)

Employer or the Employer's representatives under the said Contract or anything therein mentioned or contained and on the part of the Contractor to be performed or fulfilled or and forbearance or forgiveness in or in respect of any matter or thing concerning the said Contract on the part of the Employer or the said Employer's representative to the Contractor or its successors or assigns shall in any way release the Surety from any liability under the above-written Performance Security.

APPENDIX D

SPECIMEN FORM OF PERFORMANCE SECURITY (CONT'D)

THE COMMON SEAL OF)
.....)
Contractor)
was hereunto affixed by)
.....)
its Secretary in the)
presence of)
.....)
one of its Directors by)
Order and authority of)
the Board of Directors)
in conformity with the)
bye laws of the Company)
in the presence of:-)

THE COMMON SEAL OF)
.....)
Surety)
was hereunto affixed by)
.....)
its Secretary in the)
presence of)
.....)
one of its Directors by)
Order and authority of)
the Board of Directors)
in conformity with the)
bye laws of the Company)
in the presence of:-)

APPENDIX E
SPECIMEN OF ADVANCE PAYMENT SECURITY

APPENDIX E
SPECIMEN OF ADVANCE PAYMENT SECURITY

Demand Guarantee

Beneficiary: _____

Date: _____

Advance Payment Guarantee No.: _____

We have been informed that _____ (hereinafter called "the Contractor") has entered into a Contract for the Security Fencing Works at the Ministry of Works and Transport Guaico Complex, Guaico dated _____ with you, (hereinafter called "the Contract").

Furthermore, we understand that according to the conditions of the Contract, an advance payment in the sum _____ (_____) is to be made against an advance payment guarantee.

At the request of the Contractor, we _____ hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____ (_____)

upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works. It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number

_____ at _____

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that (80) percent of the Contract Price has been certified for payment, or on the _____ day of, _____ whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

"The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months][one year]*, in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

Signature(s): _____

APPENDIX F
SUPPLEMENTARY INFORMATION SCHEDULES
(INFORMATION MUST BE INSERTED AT THE RESPECTIVE
SCHEDULES)

SCHEDULE 1

VALID INCOME TAX CLEARANCE CERTIFICATE

SCHEDULE 2

VALUE ADDED TAX CLEARENCE CERTIFICATE

SCHEDULE 3

NIS COMPLIANCE CERTIFICATE

SCHEDULE 4

BRIEF COMPANY PROFILE, SHOWING THE ORGANIZATIONAL STRUCTURE OF
THE COMPANY

SCHEDULE 5

TECHNICAL CAPABILITIES

SCHEDULE 6

FINANCIAL CAPABILITY

SCHEDULE 7

WORK EXPERIENCE WITH SIMILAR WORKS AND EMPLOYER'S REFERENCE
WITH LETTERS/CONTACT

SCHEDULE 8

EQUIPMENT AND VEHICLE LISTING

SCHEDULE 9

METHODOLOGY

SCHEDULE 10

PROGRAM OF WORKS

SCHEDULE 11

PROOF OF OPR

REGISTRATION