



Government of the Republic of Trinidad and Tobago
Ministry of Sport and Youth Affairs

TENDER DOCUMENT

FOR THE

PROPOSED REFURBISHMENT WORKS TO DORMITORIES

AT

CHATHAM YOUTH DEVELOPMENT AND APPRENTICESHIP CENTRE

FOR

THE GOVERNMENT OF THE REPUBLIC OF

TRINIDAD AND TOBAGO

The Ministry of Sport and Youth Affairs invites tenders for the following Project:

#	Project Facility	Name of Tender	Mandatory Pre-Submission Briefing/Site Visit	Closing Date/Time
1	Chatam Youth Development and Apprenticeship Centre	Upgrade of Dormitories	Wednesday 1 st May, 2019 10:00 a.m.	Monday 13th May, 2019 10:00 a.m.

ELIGIBILITY

Submission of tenders is open to all contractors registered in Trinidad and Tobago who possess the expertise, experience and financial resources to undertake selected project(s).

Only Proponents signing the Attendance Register at the respective Mandatory Pre-Submission Briefing/Site Visit and submitting valid Mandatory Statutory Certificates (Income Tax Certificate, VAT Certificate and National Insurance Board Compliance Certificate) will qualify to be evaluated.

EVALUATION CRITERIA (TECHNICAL/FINANCIAL)

Tender submissions will be evaluated according to the following basic criteria:

- i. Proposed Implementation Time (10 pts. Max)
- ii. General Background of the Firm (5 pts. Max)
- iii. Performance History (10 pts. Max)
- iv. Work Experience of the Firm in performing services for projects of similar nature (10 pts. Max)
- v. Methodology and Work Plan (10 pts. Max)
- vi. Curricula Vitae of Proposed Key Professional Staff (5 pts. Max)
- vii. Fee (30 pts. Max)
- viii. Financial Capability of the Firm (20 pts. Max.)

Proponents are advised that Tender Documents will be available from Friday 26th April, 2019:

- From the Ministry of Sport and Youth Affairs' website at www.sport.gov.tt

Contractors are required to submit One (1) printed Original of the Proposal comprising a Technical Proposal and a Financial Proposal, in a sealed envelope properly labelled with the Name of Tender.

Complete Proposals must be addressed to:

Permanent Secretary
Ministry of Sport and Youth Affairs
#2 Elizabeth Street, St. Clair, Port-of-Spain

Sealed packages must be placed in the appropriately marked tender box, located in the Procurement Unit, 3rd Floor of the Ministry of Sport and Youth Affairs, #2 Elizabeth Street, St. Clair, Port-of-Spain. Late submissions will not be considered. Tender submissions will not be accepted electronically.

It shall be noted that:

- i. The Ministry of Sport and Youth Affairs reserves the right to cancel the present tender process in its entirety or partially, without defraying all costs associated with the preparation and submission of the Proposal;
- ii. The Ministry of Sport and Youth Affairs does not bind itself to accept the lowest price of any Proposal submitted.

Further information or clarification can be obtained from the Procurement Unit, at the Ministry of Sport and Youth Affairs Telephone 1 868 – 628 - MSYA (6792) Extensions 5101, 5102 or 5103.

Permanent Secretary
Ministry of Sport and Youth Affairs
26th April, 2019

PROPOSED REFURBISHMENT WORKS TO DORMITORIES AT CHATHAM YOUTH DEVELOPMENT AND APPRENTICESHIP CENTRE.

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Form 1: Appendix to Tender

Form 2: Form of Tender

Form 3: Applicant Information Sheet

Form 4: Work Experience of Firm

Form 5: Similar Type of Works

Form 6: General Background and Organization

Form 7: Methodology and Work Plan

Form 8: Curricula Vitae for Proposed Key Professional Staff

***ALL FORMS ARE TO BE FILLED OUT AND RETURNED IN THE PROPOSAL**

1.0 PRELIMINARIES AND GENERAL CONDITIONS



Government of the Republic of Trinidad and Tobago
Ministry of Sport and Youth Affairs

NAME OF PROJECT

Refurbishment Works to Dormitories at
Chatham Youth Development and Apprenticeship Centre

EMPLOYER

Permanent Secretary
Ministry of Sport and Youth Affairs
#2 Elizabeth Street,
St. Clair

PROJECT MANAGER

Project Management Unit
Ministry of Sport and Youth Affairs
#2 Elizabeth Street,
St. Clair
Tel. 628-6792 Ext: 6010

Or any other person/s authorized to act on their behalf

PRELIMINARIES AND GENERAL CONDITIONS

Description of Works

- A. The project entails roof and ceiling works, upgrades electrical and plumbing installations and other builder's works to four (4) dormitories.

Scope of Works

- B. The works comprise the following:
1. Installation of roof insulation
 2. Installation of roof eaves
 3. Installation of new ceilings
 4. Construction of shower stalls
 5. Upgrades to plumbing installations
 6. Repairs to rainwater installations
 7. Upgrades to electrical installations and lighting
 8. Painting building interior

Location of Site

- C. The site of the proposed works is located at Southern main Road, Chatham

Possession of site

- D. To be agreed on Award of Contract. The works shall be executed in a manner to cause the least disturbance to the other operations on the site. An area for the storage of materials must be located in consultation with the Camp Director or his Representative.

To Collection \$ _____

PRELIMINARIES AND GENERAL CONDITIONS

INSTRUCTIONS TO TENDERERS

- A. **(Tenderers are advised to read all instructions carefully. Failure to follow these instructions may result in rejection of your offer).**
1. Prospective Tenderers who are not already registered with the Ministerial Tenders Committee may do so by completing the application Forms, obtainable at the Project Unit, Ministry of Sports and Youth affairs.
 2. Tenders **must** be accompanied by a valid up-to-date Income Tax Certificate, issued by the Board of Inland Revenue.
 3. Tenderers who are registered for Value Added Tax **must**:
 - a. Provide a valid up-to-date Value Added Tax Certificate.
 - b. Show the tax separately below the tender price.
- i. Tenderers are advised to note:
- a. Where a person or firm imports goods that are exempt from payment of Customs Duty, Under Item 20 of the 2nd Schedule of the Customs Ordinance, Value Added Tax shall not be charged upon the entry of the goods so imported or taken out of bond, by or on behalf of the Central Government for its own use;
 - b. The treatment of Value Added Tax on the supply of goods ex-stock and, as well services in Trinidad and Tobago to the Central Government will remain the same, subject to the rate of tax appropriate to such supplies.
- ii. Tenderers must provide the following in their tender:
- a. Duty-free and duty paid prices in Trinidad and Tobago dollars (\$TT).
 - b. Prices based on foreign exchange rates must be specified at the rates by the Central Bank of Trinidad and Tobago, which is seven (7) days before the actual closing date of the tender.
 - c. An assurance that prices would remain valid for an initial minimum period of ninety (90) days from the closing date of tender.
 - d. A firm delivery period.
 - e. Guaranteed offer.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

INSTRUCTIONS TO TENDERERS (Cont'd.)

Text to be definitive

- A. Do not alter, add to or modify the text of the specifications as this will not be recognized or taken into account and could lead to a disqualification of the tender. If the Tenderer wishes to make an observation as to the printed text in connection with the rates or prices he had inserted, such observation shall form the subject of a separate letter to accompany his tender.

Pricing

- B. Price in ink each item in the specification which is considered to have a money value. If the Tenderer omits to price any item, it will be deemed that either he will perform the services described free of charge or that the cost of such services has been included against items appearing elsewhere in the specification.
- C. Prices inserted unless otherwise stated, shall be deemed to include for all duties, taxes, materials, plant and tools, transportation, labour and supervision and all other costs necessary for the timely execution of the works.
- D. Prices are to be submitted in Trinidad and Tobago Dollars (TT\$) and exclusive of Value Added Tax. This is to be stated along with tender submission to ensure clarity in interpretation of prices.

Fluctuations

- E. No adjustment will be made for cost increases/decreases which take place during the period stipulated for carrying out the works except the same are as a consequence of the introduction of or changes to statutory regulations.

Queries

- F. The Tenderer shall refer all queries arising out of this tender to the Ministry's representative whose decision for the purpose of tendering shall be final.
- G. Queries shall be raised not later than five (5) days before the closing date of tenders, so as to permit the circularizing of the replies to all tenderers, if this is considered necessary.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

INSTRUCTIONS TO TENDERERS (Cont'd.)

Time

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

Submission

- B. Tenderers must submit the Tender Documents duly priced with the completed Form of Tender in a sealed envelope all in accordance with the instructions as outlined in the invitation to tender and including the following
- C. The full name, signature, office and business address of the Tenderer.

Signature of the person making the offer, or in the case of a Company, partnership or business firm, by a duly authorized officer or employee of such company, partnership or the business firm.

- D. The initials of the person making any offer, must be inserted next to any alterations or erasures made or in the case of a company, discount offered (if any).

Errors

- E. The Tender will be checked for arithmetical errors and corrected and the Tender sum adjusted accordingly and with the concurrence of the Tenderer shall be considered to be binding on the tenderer.
- F. Where significant arithmetical errors or obvious errors in pricing are discovered in the Tenderer's priced Bills of Quantities, 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 amend it to correct the errors.
- G. If the Tenderer elects to stand by his tender, for the purposes of administering the contract and for interim payments and 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.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

INSTRUCTIONS TO TENDERERS (Cont'd.)

Errors (Cont'd.)

- A. 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 tendered signed sum remains the same, and an endorsement signed by both parties to the contract will be added to the priced Bills of Quantities.
- B. 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.
- C. If the Tenderer amends his tender to correct the errors, the corrected details shall either be initialed by the Tenderer in his priced Bills of Quantities or confirmed by him in a letter which shall be conjoined with the acceptance and the amended figures and rates in it shall be substituted for those in the original tender.

Agreement

- D. The successful Tenderer will be required to enter into a formal agreement with the Ministry of Sport and Youth Affairs.

Collusion

- E. Each Tenderer shall submit only one Tender. A Tenderer who submits or participates in more than one Tender shall cause all Tenders with their participation to be disqualified.

Acceptance/Rejection of Tenders

- F. The Employer reserves the right to reject any Tender which does not provide satisfactory evidence that the Tenderers has the technical, physical and financial resources to complete the works within the specified contract period.
- G. The Employer may declare the Tendering void when none of the Tenderers meet the intent of the specification or when it is evident that there has been collusion. In addition, all Tenderers may be rejected if they are substantially higher than the official budget approved by the Employer.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

CONTRACT PARTICULARS

Cost of Bidding

- A. The Tenderer shall bear all costs associated with the preparation and submission of his bid and the Employer will in no case be responsible or liable for these costs of the conduct or outcome of the tendering.

Work Programme

- B. The Tenderer shall:
- (i) Prepare and submit with his tender a Draft Programme of the works for approval by the Project Coordinator.
 - (ii) Execute the works in a manner to cause the least disturbance to users of the facilities.
 - (iii) The tenderer must submit a Method Statement for the Works.

Contents of the Tender Documents

- C. The set of tender documents issued for the purpose of soliciting tenders includes:
- a. Scope of Works
 - b. Instructions to Tenderers
 - c. Conditions of Contract
 - d. Specifications
 - e. Form of Tender
- D. The Tenderer is expected to examine carefully all instructions, conditions, forms and terms. Failure to comply with the requirements of the bid submission will be at the Tenderer's own risk.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

CONTRACT PARTICULARS

Form of Agreement and Conditions of Contract

- A. The Articles of Agreement and General Conditions of Contract will be the FIDIC Short Form of Contract, a copy of which is available at the Project Management Unit, Ministry of Sport and Youth Affairs.
- B. A copy of the Form of Contract may be inspected at the Project Coordinator's office by appointment during normal working hours.

Terms and Conditions for Labour and Materials

- C. The Ministry of Sport and Youth Affairs also means any Officer assigned by the Ministry.
- D. Tenders are expected to give a positive date of commencement and completion.
- E. Works are to be executed between the hours of 7.00 a.m. and 4.00 p.m. unless further agreed to with the Ministry of Sport and Youth Affairs and in a manner not to hinder the movement of local pedestrian and vehicular traffic. That the Ministry of Sport and Youth Affairs will in no way be liable for any damages which may be caused to utility lines, premises etc, and it will be your responsibility to repair/replace same without any inconvenience to the person/persons concerned.
- F. The price quoted shall be deemed to be in Trinidad and Tobago currency. Prices quoted shall be deemed to include for the provision of all labour, plant for transport for deliveries to site, for temporary storage of materials and plant for transport, for the erection, maintenance and removal of scaffolding, temporary stagings, protection etc. and for all things necessary for the completion of the works in accordance to the reasonable satisfaction of the Employer.
- G. That you adhere to the minimum wages bill and fair wage clause.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

CONTRACT PARTICULARS (Cont'd.)

Contingency Sum

- A. Any contingency items to be agreed with the Ministry of Sport and Youth Affairs before implementation.
- B. Contingency items are to be agreed with the Employer before Implementation.

Insurance

- C. The Contractor shall provide all necessary insurances or indemnify against:-
 - 1. Injury to persons and property
 - 2. Workmen compensation
 - 3. Fire
 - 4. Theft

To Collection \$ _____

PRELIMINARIES AND GENERAL CONDITIONS

SITE PARTICULARS

Site Visit

- A. The Contractor is advised to visit the site and ascertain the nature of work to be done, means of access and egress, the availability and positions of essentials services, viz, electricity, water etc., condition of the site, working space and storage of materials and allowance is to be made in the tender for all such factors which may affect execution of the works.
- B. The Contractor is also advised to arrange a site visit with the Ministry of Sport and Youth Affairs. The Contractor is to note that electricity and water is available for use during construction.

Protection of Public and Private Services

- C. The Contractor is to protect, uphold, temporarily divert and maintain all pipes, ducts, drains sewer, service mains, overhead cables and the like during the execution of the works. The Contractor is to make good any damage due to any cause within his control at his own expense or pay any costs and charges in connection therewith. Approval shall be obtained at least at two weeks in advance if any services have to be interrupted.

Siting of Temporary Works and of Permanent Spoil Disposal

- D. Obtain the approval of the employer to the siting of permanent spoil disposal and of the proposed siting of materials, of temporary spoil and rubbish deposits and of temporary buildings, temporary roads and the like.

Temporary Roads

- E. The Contractor shall provide, maintain and alter as necessary all temporary roads, tracks, paths, hard standings, pavement crossings, temporary works and the like. Reinststate the ground and all the work disturbed.

Temporary Water Disposal

- F. Provide and maintain temporary gutters, channels, drains and the like for the disposal of surface and other water. Alter, shift and adapt from time to time as necessary.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

MATERIALS AND WORKMANSHIP

Best Quality

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

Defective Work

- B. Any defective materials or substandard workmanship not in accordance with this contract shall be removed and replaced at the Contractor's own expense.

Apply Throughout

- C. Descriptions of materials and workmanship given in any one Section are to apply throughout the Specification unless otherwise described.

Brand Names

- D. Where materials are described by brand or trade names, such names are given as indication of type, quality etc., allow in tendering for these particular materials but alternative may be used with the Employer's approval. If approval is not given the materials described herein must be provided.
- E. All branded materials shall be used strictly in accordance with the respective manufacturer's recommendations and instructions. The Contractor shall be responsible for obtaining from manufacturers all relevant details regarding the use of their products. The Contractor shall bring immediately to the attention of the Employer any difference between the manufacturer's recommendation and the Specification given herein for a decision on which is to take precedence.

Provide as Necessary

- F. Provide as necessary all materials required for the proper execution and completion of the works.
- G. 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.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

MATERIALS AND WORKMANSHIP (Cont'd)

Samples

- A. Samples of materials, colours, panels or sections of finished work, etc., shall be provided without charge, to the Employer for approval, if required. Keep approved samples on site in an approved position for use as a reference by craftsmen. No material or workmanship which in the opinion of the employer is of a lower quality than the approved sample will be accepted by the Employer.

Tests

- B. The Contractor's attention is drawn particularly to the requirements described in the Materials and Workmanship Section of the Bills of Quantities. Provide materials for and carry out tests as and when directed by the Employer. If the results of any tests are unsatisfactory bear the cost of any resulting reconstruction which may be ordered by the Employer.

Rejected Material

- C. Materials required to be incorporated into the permanent and finished construction works shall on no account be used for temporary works.
- D. Materials or goods rejected by the Ministry's Representative as unsuitable for incorporation into the works shall immediately be removed from the site.

LABOUR

Provide as Necessary

- E. Provide as necessary, all skilled, semi-skilled and unskilled labour required for the execution and completion of the works. Workmanship is to be of the best quality throughout, to the reasonable satisfaction of the Employer.

Availability

- F. Ensure that all labour will be available for the works and allow in tender for the additional cost of any importation of labour from other districts that may be deemed necessary.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

MATERIALS AND WORKMANSHIP (Cont'd)

Fringe Benefits

1. Allow for all costs in respect of National Insurance, Vacation and Public Holiday Leave, Sick Leave, Cost of Living Allowance, Subsistence Allowances, traveling time and expenses and all other emoluments and expenses payable to or in connection with the employment of persons for the works.
2. Comply with local regulations in force relating to the welfare of work-people on the site or in places where work is being prepared for incorporation into the works and keep and maintain, at all times, an adequate First Aid Kit on the site.

Overtime

3. No work is to be executed outside normal working hours without the prior consent of the Employer. Include in the tender for any overtime work which may be considered necessary in order to complete the Works by the agreed date.

Supervision

4. Provide a competent foreman-in-charge and all other site staff, necessary of the proper supervision of the works. Any instructions given by the Ministry's Representative to the foremen-in-charge shall be deemed to be given to the Contractor.

TRANSPORT

5. Provide all necessary transport for labour and plant.

PLANT, TOOLS AND VEHICLE

6. Provide all mechanical and non-mechanical plant necessary for the proper execution of the works.
7. Provide and install all necessary hoists, ladders, tools and other plant and vehicle and allow for altering, adapting and maintaining them as necessary and remove when no longer required.
8. Provide all surveying instruments, temporary benchmarks and labour for setting-out and leveling.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

MATERIALS AND WORKMANSHIP (Cont'd)

General scaffolding

- A. Provide all necessary temporary scaffolding for the proper execution and completion of the contract and alter, shift and adapt from time to time as necessary. Re-erect, at own expense, if so required, any scaffolding which has been struck before ascertaining whether it is required by any sub-contractor nominated or otherwise.

Watching and Protection

- B. The site of the proposed Works, except for areas within the existing building, shall be under the Contractor's sole charge from the date of possession to the date of completion of the Contract.
- C. Provide all necessary day and night watching (including Security Guards, if necessary) to effectually protect the Works and materials stored on site, including those of sub-contractors and workpeople and visitors and accept all risks for damage or loss.
- D. Provide all necessary temporary hoarding, fencing, gates, barricades, fans, planked footways, gantries, screens, etc. in accordance with the Employer's details for the protection of the work people, occupants, access roadways, adjoining property and the public and alter, adapt and maintain them as necessary and clear away on completion and reinstate all work disturbed to the satisfaction of the competent authorities. Gantries shall be construed with ramps to allow unimpeded passage to physically handicapped persons and children.

Trespass

- E. Prevent any trespass by unauthorised persons on the site of the Works and any trespass on the adjoining property by own employees or those of sub-contractors and indemnify the Employer against any claims, costs or proceedings whatsoever arising out of any trespass or alleged trespass.

Attendance

- F. Provide attendance upon, cut away for and make good after all trades and in all trades performed by own workmen and own sub-contractors and leave perfect on completion.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

MATERIALS AND WORKMANSHIP (Cont'd)

Protection of Works

- A. Case up and protect all work from any kind of injury and damage. Provide all necessary temporary roofs, tarpaulins, screens, plankings and general protection that may be required and clear away when no longer needed and reinstate any work which has become damaged or stained.

Clear Away and Clean Down

- B. Clear away all plant and temporary work unless otherwise described or directed and make good. Clear away all existing rubbish, debris and surplus materials as they accumulate and at completion. Clean floors, pavings, glass both sides and all external surfaces and leave the Works clean and perfect at completion.

Government and Local Ordinances, Etc.

- C. Allow for compliance with all Government and Local Ordinances, orders, rules and regulations insofar as is not provided for elsewhere in the Specification.
- D. Allow for compliance with any regulation made by the police for the temporary parking of vehicles and the loading and unloading of persons or goods.

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

GENERAL MATTERS

TEMPORARY SITE ACCOMMODATIONS

Generally

- A. The Contractor in concurrence with the Assistant Project Coordinator, shall select areas for all temporary buildings, office accommodations and mess rooms for staff and workmen and remove on completion as may be necessary. The ground on which temporary buildings are sited shall be made good after removal of these buildings.

Toilets

- B. The Contractor may use the toilet facilities available on site free of charge for the use of the workmen, provided that he takes care to cause the least disturbance to the operations of the facilities and make good any damages arising out of his use of the facility. However, this concession in no way releases the contractor of his obligation to provide temporary lighting and electric power for the works.

Water for the Works

- C. The Contractor may use the water supply on the site free of charge, provided that he takes care to cause the least disturbance to the operations of the facilities and make good any damages arising out of his use of the electric supply. However, this concession in no way releases the contractor of his obligation to provide clean water for the works.

Lighting and Power for the Works

- D. The Contractor may use the electric power supply on the site free of charge, provided that he takes care to cause the least disturbance to the operations of the facilities and make good any damages arising out of his use of the electric supply. However, this concession in no way releases the contractor of his obligation to provide temporary lighting and electric power for the works.

Inclement Weather

- E. During inclement weather the Contractor shall suspend all operations which may be adversely affected for such time as the Assistant project Coordinator may direct, and effectually cover up and protect the works from injury by weather.

Making Good

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

To Collection \$

PRELIMINARIES AND GENERAL CONDITIONS

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PRELIMINARIES

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TO SUMMARY

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2.0 MATERIALS AND WORKMANSHIP

MATERIAL AND WORKMANSHIP

EXCAVATION AND EARTHWORK

General

- A. The excavation to be carried out to the lines and levels shown on the drawings or to such other dimensions as the Project Coordinator or his representative may supply.
- B. Excavation and backfilling shall be carried out in such a manner as to avoid damage to adjacent structures and the Contractor shall provide any temporary support that may be required.

Nature of Ground

- C. Ascertain the nature of the ground and sub-soil and determine whether water, running sand or any other difficulties are likely to be encountered and weather cutting by hand or mechanized means must be used.
- D. Measures must be taken to control and reduce seepage of water on the site as far as practicable.
- E. Every precaution must be taken to ensure the moisture conditions in the soil are so controlled as to have no deleterious effect on the foundations. Excessive drying out or wetting must therefore be avoided during construction. Foundations are to be cast promptly after completion of excavation.

Approval of Bottoms

- F. The Project Coordinator or his representative shall inspect the excavation for all foundation before any concrete is placed and the Contractor shall give a 24 hours' notice that such an inspection will be required. Any sort of unsuitable materials shall be removed and replaced with concrete of 1:4:8 mix.

Level and Ram

- G. Level and ram surface of ground and bottom of all excavation to receive concrete.

Excessive excavation

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

MATERIAL AND WORKMANSHIP (Cont'd)

EXCAVATION AND EARTHWORK (Cont'd)

Fill

- A. Fill considered suitable for backfilling and filling shall be free from wood, debris or other combustible material, vegetable matter or any material subject to decay or disintegration and alkaline debris such as lime, plaster and cement from current operations.
- B. Backfilling shall be carried out with selected material around foundation and at the back of walls etc., up to original ground level or as directed. It shall be carried out in the horizontal layers not exceeding 225mm loose thickness, moistened or dried as required and thoroughly compacted by mechanical or other approved means to a dry density not less than the surrounding soil.
- C. The bottom 75mm of excavation for concrete shall be removed on the same day as the concrete (or blinding layer) is placed on it. If the excavation should become disturbed or weakened by water or other means, the Contractor shall be required to remove a further thickness of the soil as the Project Coordinator or his representative may direct, and to backfill same with 1:4:8 concrete at the Contractor's own expense.
- D. No backfilling shall be carried out which covers work which has not been inspected and approved.

Materials arising

- E. No materials found in the excavation are to be used in the Works without the written permission of the Project Coordinator.

Hardcore

- F. Hardcore is to consist of clean crushed stone, broken block or gravel approved by the Engineer, free from clay, silt or organic material, not exceeding 3" (75mm) maximum size and is to be consolidated with half-ton vibrator roller or approved equivalent. The hardcore is to be well wetted and blinding with sand to present a uniform and even upper surface.

Pricing

- G. Prices for Excavation and Earthwork shall include all consideration arising from the specification.

MATERIAL AND WORKMANSHIP (Cont'd)

EXCAVATION AND EARTHWORK (Cont'd)

CONCRETE WORK

Description

- A. This work shall include for supplying, casting, curing of concrete, supplying, erecting and striking of formwork and props, providing construction joints, expansion joints complete as per drawings and as specified hereinafter of as directed by the Project Coordinator. All items inclusive of all labour, materials, tools, plants and related services.

Materials

Waters

- B. Water to be used in the works shall be clean and free from all harmful matter, in suspension or solution.

Cement

- C. Portland cement shall conform to the requirement of ASTM C150, Type 1. Where specified on the drawing, cement shall be Sulphate Resistant.

Aggregates

- D. The aggregates shall be the best procurable and shall comprise inert, inorganic mineral matter only. They shall be satisfactorily clean, durable, hard, sound, strong and tough and be practically free from alkali, clay, dust, loam, mica, shale, slit, or any material deemed objectionable in the nature or amount by the Project Coordinator. None of the particles comprising the aggregates shall be coated nor be unreasonably flat or elongated.

MATERIAL AND WORKMANSHIP (Cont'd)

CONCRETE WORK (Cont'd)

Construction Requirements

Grading of Aggregates

- A. The grading of all aggregates shall be such as will produce an economic, plastic, practical, smooth, workable mix which when placed, set and cured will produce a concrete of the best character possible and shall be such as to achieve the specified twenty-eight (28) day cylinder compressive strength.

Duration of Mixing

- B. The mixing of each batch shall continue not less than one and one-half (1 ½) minutes after all the materials are in the mixer, during which time the mixer shall rotate at a speed of from fourteen (14) to twenty (20) revolutions per minute unless otherwise rated by the manufacturer.
- C. All concrete shall be mixed until uniformity in colour and consistency is attained and ingredients are well disturbed. Mixed concrete shall be completely discharged before a new charge is placed.

Hand Mixing

- D. When hand mixing is authorized by the Project Coordinator, it shall be done on all water-tight platforms. The fine and course aggregate in the appropriate proportions shall be spread on the platform and thoroughly blended before cement is spread evenly over the blended aggregate. The material shall then be shovelled into a cone shaped pile by casting centrally on the pile. This pile shall then be divided by casting in two (2) or more cone shaped piles and the operation of dividing and reuniting continued until the batch is uniform in colour. Only sufficient water to produce the desired consistency shall then be added as the batch is turned. The coarse aggregate previously moistened shall then be mixed with the mortar in the manner specified for mixing fine aggregate and cement.

Re-tempering

- E. The re-tempering of the concrete or mortar which has partially hardened, that is, remixing with or without additional cement, aggregate or water, will not be permitted.

Forms

- F. Forms shall be so constructed that the finished concreted will concrete with the shaped, lines, grades and dimensions indicated on the Plans.
- G. Lumber used in forms shall be free from warp. For exposed surfaces it shall be dressed to a uniform width and thickness, and be free from loose knots, decay or other defects. For unexposed surfaces and rough work, undressed lumber may be used if means are taken to prevent leakage of mortar.

MATERIAL AND WORKMANSHIP (Cont'd)

CONCRETE WORK (Cont'd)

Machining Mixing

- A. The mixing of concrete, unless otherwise authorised by the Project Coordinator, shall be done in a batch mixer of type approved by him. The mixer shall be equipped with a suitable charging hopper, water storage and water-measuring device. It shall be cleaned at frequent intervals when in use and unimpaired. Further, hopper shall be thoroughly clean when mixing ceases and/or at days' end. Knock out all lumps of residue and wash out prior to charging hopper.

Depositing Concrete

- B. Concrete shall be deposited in forms as nearly as practicable in its final position, to avoid rehandling and in approximately uniform horizontal layers. Depositing shall be continuous until the unit of operation, as approved by the engineer is complete and as rapid as practicable to ensure bonding of the successive layers.
- C. Concrete shall be thoroughly worked around reinforcement and embedded fixtures, and into all parts of the forms. Coarser particles shall be worked back from the face of the forms.

Conveying of Concrete

- D. Concrete shall be mixed and delivered in accordance with applicable requirements of ASTM C94. Only trucks equipped with an approved rotary drum or agitator shall be used for conveying concrete. Conveying from mixer to final place of concreting shall be done in shortest practicable time, but never more than 1 ½ hours elapses between adding water to cement and placing of concrete unless the use is approved.
- E. Concrete may be conveyed by buckets, trolleys, chutes of proper size and slopes or pumped as long as segregation is prevented and sound finished product is attained. All methods of conveying concrete, however, shall be subject to approval of the Project Coordinator. Concrete shall not be allowed to fall freely more than 1500mm in height.

Curing Concrete

- F. Concrete surfaces exposed to conditions causing premature drying shall be protected by covering as soon as possible with canvas, straw, burlap, sand or other satisfactory material and kept moist by flushing or sprinkling. Curing shall continue for a period of no less than seven (7) days after placing the concrete. If high-early strength cement is used, this period may be reduced as directed by the Project Coordinator. Other precautions to ensure the development of strength shall be taken as the Project Coordinator may direct.

MATERIAL AND WORKMANSHIP (Cont'd)

CONCRETE WORK (Cont'd)

Finishing of Concrete

- A. Portions of the structure to be covered by soil or masonry work or otherwise not to be visible shall have no special finishes. Surface to receive architectural finishes shall be prepared to receive such finishes. Surfaces which are not formed (e.g. top of slabs) are not intended to receive any special finishes like terrazzo or granolithic shall be neat-cement trowel finished.

Joints

- B. Locations of construction joints shall be shown on design drawings and shall be generally governed by design requirements and the natural discontinuity that may have to be provided for practical considerations. Contractor shall submit his proposal of construction joints to the project Coordinator for approval.

Expansion joints shall be provided at locations and according to details shown on design drawings or as instructed by the Project Coordinator.

Grouting

- C. Grouting to install bolts, sleeves or under column and machine bases shall be non-shrinking grout not leaner than one part of cement with two parts of sand. Non-shrink compound shall be as approved by the Engineer and shall be mixed in proportion and in a way as specified by the manufacturer. Grouting method shall be such as to ensure complete filling of grouting space. Compressive strength of grout shall not be less than 1.5 times the strength of concrete on which it is laid.

BLOCK WORK

Cement and Water

- D. Cement and water shall be as described under "CONCRETE WORKS".

Sand

- E. Sand shall be fine aggregate of natural sand or crushed natural stone comply with B.S. 1200. Samples of sand are to be submitted to the Project Coordinator upon request for approval at any time during the contract period. If and when considered necessary all sand shall be site washed to the Project Coordinator.

Plasticiser

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

MATERIAL AND WORKMANSHIP (Cont'd)

BLOCK WORK (Cont'd)

Concrete Blocks

- A. No dimensions shall differ by more than 3mm from the specified standard dimension. "Standard Dimensions" refer to the manufacture's designated dimension and are not to be confused with "nominal dimensions" of modular size units which are equal to the standard mortar joint.
- B. Concrete blocks shall conform to B.S. 6073: Part 1: 1981 of first quality, good sound, hard and well cured, and true to shape and size and shall be rough textured blocks unless otherwise described.
- C. Load bearings 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 B.S. 6073: Part 2: 1981 or A.S.T.M. c-140.
- D. Blocks for fair faced work shall be smoothed textures, modular sized units of first quality with all edges and faces true and undamaged. Special blocks may be used angles and jambs. Blocks shall only be cut with a mason's saw or other tools obtained from or recommended by the manufacture.
- E. All blocks shall be carefully off-loaded and stacked, care being exercised at all stages to ensure that all edges are kept true and undamaged.

Mortar

- F. Mix mortar for blockwork of cement and sand (1:4) mixed on site in a similar manner to concrete including a plasticiser additive at the rate of quarter pint of plasticisers to every bag of cement and use within one hour of mixing. Mortar which has commenced to set is to be knocked up again for re-use.
- G. Mortar shall be mixed by placing one half of the water and sand in the operating mixer then adding the cement, plasticiser and the remainder of sand water. After all the ingredients are in a 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 1 ½ hours from the addition of water to mix.
- H. The mixer drum is to be thoroughly washed out at the completion of work each day and as necessary during working hours.

MATERIAL AND WORKMANSHIP (Cont'd)

BLOCK WORK (Cont'd)

Reinforcement

- A. 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 walls.
- B. 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 the blockwork.

Laying Blocks

- C. 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.

Filling to Cores

- D. 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.
- E. Fill shaft consist of concrete mix 20 N/mm². Sufficient water shall be added to make a workable mix that will flow into tall 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 1 ½ hours after water had been first added. Added mixtures may be used subject to prior approval by the Employer.
- F. The concrete fill shall develop a minimum compressive strength of 20 N/mm² at 28 days when tested.

Joints

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

Pricing

- J. Prices are to include for:
 - 1. All considerations arising from this specification.

MATERIAL AND WORKMANSHIP (Cont'd)

METAL WORK

Generally

- A. All metal work shall be fabricated by a specialist firm approved by the Project Coordinator. Before any order is placed, the contractor shall obtain the approval of the Project Coordinator 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 Project Coordinator. If required the contractor shall submit shop drawings for inspection by the Project Coordinator.

Materials

Mild Steel

- C. Mild steel shall conform to B.S. 4360:1986. 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 galvanized shall be entirely coated with zinc after fabrication. The finished surface shall be smooth, clean and uniform.

Welded Mesh

- E. Weld mesh shall be high tensile carbon steel wire, conforming to ASTM A853, Grade AISI 1008 and 1010 or equivalent.

Uniform hot-dipped zinc, conforming to ASTM F668, Class 26 or equivalent.

Nuts, Bolts and Washers

- F. Nuts and bolts shall be British Standard Whitworth bolts with Hexagonal heads, nuts and round washers of the type and size shown on the drawings and shall comply with B.S. 1494: Part I: B.S. 916. Washers shall comply with B.S. 3410.

MATERIAL AND WORKMANSHIP (Cont'd)

METAL WORK (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.

Fillet welds only shall be used.

All soldered, or welded joints etc., and securely anchor to the structure all metal work and make good the surfaces to which they are fixed.

Painting of Works

- B. Where work is described as primed after fabrication the contractor shall give the employer at least 48 hours' notice, so that he may, if he wishes, inspect and approved the work before priming commences.

Where described as primed at works, metalwork shall be free from rust, millscale, welding flux residue and shall be dried immediately prior to painting with primer.

The primer shall be touched up with similar primer if damaged by subsequent handling.

Leave Clean

- C. 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

- D. Prices to include for:
1. All considerations arising from the specification.

MATERIAL AND WORKMANSHIP (Cont'd)
PAINTING AND DECORATING

General

- A. All materials used, unless otherwise stated shall be anti-fungus. Supply paints on site in sealed cans and all thinning, mixing, etc., shall be in accordance with the manufacturer's instructions.
- B. Produce vouchers as and when required by the Project Coordinator to prove to his satisfaction that all materials supplied are genuine and as specified herein.

Preparation and Application

- C. Thoroughly dust and clean down all surfaces to be painted, cut out cracks, stop holes and clean steelwork rust in accordance with approved practice.
- D. Apply paint by brush, roller or spray with the minimum of dilution. Strain the prepared paint free from skins and similar impurities immediately before application.
- E. Allow to dry and well rub down each coat of paint before the rest is applied and no two successive coats shall be to the same tint.
- F. No paint shall be applied to a damp surface and no external painting shall be carried out during we weather.
- G. On no account allow employees to empty washings or painting materials into sanitary fittings or drainage systems, so provide a suitable receptacle to receive the same.

Brand Names

- H. The paints which the Project Coordinator will accept in these Works are those which are locally manufactured except where otherwise specifically described. Prepare surfaces and apply paints in strict accordance with the specification of the manufacturer of the brand chosen.

MATERIAL AND WORKMANSHIP (Cont'd)
PAINTING AND DECORATING (Cont'd)

Masonry Surfaces

- A. Prepare masonry surfaces for painting by allowing too dry for as long as possible and removing all flaking, powdery materials and thoroughly brushing to remove dust.

Remove mould by washing and scrubbing using chlorine bleach (dilute 3 part water/1 part bleach) and rinse with clean water and allow to dry. Scrub the whole of the surfaces thoroughly with a fungicide solution.

- B. Prime surfaces for painting by allowing to dry. Fill all cracks, holes, etc., with patent filler which shall be allowed to set before sanding to a smooth finish before the application of subsequent coats of emulsion paint as specified.

Metalwork

- C. Prepare surfaces of metalwork for painting by removing dirt, grease, etc., with an approved solvent and rust and scale wire-brushing, chipping etc., allowing to dry.
- D. Paint metal surfaces as specified allowing at least one hour drying between each coat.

Pricing

- E. Prices are to include for:
1. All considerations arising from the specification.

PLUMBING SPECIFICATIONS

Location

- A. All locations are approximately correct but are understood to be subject to modifications as may be found necessary in order to meet structural conditions and the requirements of other equipment installations prior to and/or at the time of installation.

Coordination and method

- B. The Contractor shall coordinate the plumbing installation with other trades to ensure that openings and chases have been made for pipework and he shall be held responsible for the fitting of work to the building. All dimensions for purposes of installation shall be taken on site and not from the drawings.
- C. All roughing-in shall be done from measurements of the actual fixture or from the manufacturers' brochures giving these specific details. Unless stated otherwise, all pipework above ground shall be concealed within walls, ceiling and plumbing ducts provided and any deviation from this shall be first approved by the Employer.

Cleanouts

- D. No clean-out within the building shall be left protruding out of the wall or floor, except where it is concealed behind a sanitary fitting.
- E. In all visible locations, the clean-out plug shall be recessed and covered by a metal plate. Clean-outs external to the building shall terminate at grade level for easy access and properly protected from traffic or otherwise.

Pressure pipes

- F. Water supply pipes internal to the building shall be of galvanized iron, galvanized steel or PVC Grade E. PVC pipe shall be installed with all standard PVC fittings using the correct solvent cement for this application. All pipes shall be designed for use with working pressure of 6.8 bars minimum and must withstand test pressure of 10.2 bars on cold water systems.

Non pressure waste and soil pipes

- G. Non pressure pipes internal to the building and within 3000mm outside the building line shall be of PVC Grade DWW or Grade B.

Subterranean drainage

- H. All pipes shall be laid to lines and falls indicated.
- J. Perforated pipes shall have 12 mm diameter holes at 0°, 60°, and 300° to the vertical at 75 mm centres. They shall be laid in 20 mm selected aggregate as shown in filtration grade perforated nylon fabric.
- K. Note: Perforated pipe to be separately wrapped in perforated nylon fabric.

PLUMBING SPECIFICATIONS (Cont'd).

A. Above ground supports - PVC pipes

For above ground installation of horizontal runs of PVC pipe, there shall be at least one support hanger located adjacent to the joint. The maximum spacing between hangers shall be 3000mm. For vertical runs of PVC pipe supports shall be not less than every storey height and at the base of the run.

Venting

- B. Venting shall be in accordance with WASA's regulations and the isometric drawings.

Excavations for Pipe Laying

- C. The Contractor shall make excavations in such a manner and to such dimensions as will give suitable room for building appurtenant structures and laying and jointing the pipe. He shall place all sheeting, bracing and supports and shall do all coffer damming, pumping and draining to render the bottom of the excavations dry and acceptable in all respects. In no case except as provided for hereinafter, shall the earth be ploughed, scraped or dug by machinery so near to the finished subgrade as to result in disturbance below the said subgrade. The last few inches of the material must be removed with pick and shovel just before placing the pipe, masonry or other structures. Where pipe is to be laid in a gravel bedding or in a concrete cradle, the trench may be excavated by machinery to or just below the designated subgrade provided that the material remaining at the bottom of the trench is not disturbed.

D.

Where pipe is to be laid directly on the trench bottom, the lower part of the trench shall not be excavated to the subgrade by machinery but just before the pipe is to be placed the last few inches of the material to be excavated shall be removed by means of hand tools to form a shaped bottom true to grade so that the pipe will have a uniform and continuous bearing and support on firm and undisturbed material between joints except for limited areas where the use of slings may have disturbed the bottom. All pipe slopes shall conform with WASA's regulation or as indicated on drawings.

Protection of Existing Structures

- E. All existing pipes, holes, wires, fences, curbing, property line markers and other structures which the Employer decides must be preserved in place without being temporarily or permanently relocated shall be carefully supported and protected from damage.

Unauthorised Excavation

- F. If the bottom of any excavation is dug beyond limits indicated or prescribed the resulting void shall be backfilled with screened gravel and thoroughly compacted.

Cutting and Making Good

- G. Cutting of structural members shall not be done without the approval of the Employer.
- H. Make good all work of other trades which is disturbed.
- J. Any cutting or patching required in connection with the installation of this work due to errors on the part of the Contractor shall be paid for by him.

PLUMBING SPECIFICATIONS (Cont'd).

A. **The Contractor shall guarantee that all work and materials with defects, within one year of the date of acceptance, shall be promptly removed and replaced by him without additional cost to the Employer and that all work so replaced shall be in strict accordance with the drawings and this specification.**

B. Where such defects occur, the Contractor shall be held responsible for all costs incurred in making the defective work good and all injuries to plaster, wood or other finishes caused by such replacements and repairs of defective work shall be remedied with first class workmanship by the Contractor at his own expense.

Joints

C. No PVC joints are to be made with open flames, heat or sparks. Joints shall not be flared on sites by heat application in order to create a socket joint. A PVC collar shall be used instead.

Fittings

D. All fittings shall be suitable for use with working pressures equal to or better than those applicable to the pipe on which they are installed. All joints to be leak-proof.

Adaptors

E. Adaptors shall be used to join pipe of different types, unless solid sleeves are indicated of approved. Adaptors shall have ends for the appropriate type of joint to receive the joining pipe.

Valves and Appurtenances

F. Valve working pressures shall be at least equal to that of the pipe on which they are to be installed. Listed below are the general features required for the various types of valves unless otherwise approved.

Gate Valves

G. 75mm and larger shall be iron body, bronze mounted, solid wedge gate valves with be3ll or mechanical joints. Flange ends shall be used only where indicated or approved. Gate valves smaller than 75mm shall be standard bronze, single wedge, rising stem, inside screw gate valves with screwed ends. Stems shall turn counter-clockwise to open. Buried valves 75mm and larger shall have non-rising stems and operating nuts. Exposed valves in structures and buried valves

Isolation Valves

H. Isolation valves for appliances shall be all chrome plated brass shut off valves with rubber washers as per manufacturer's specification.

J. Hose bibs shall be all brass valves with rubber washers and end threads for garden hose fixing.

Handling and Cutting Pipe

K. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe, scratching or marring machined surfaces and abrasion to the pipe coating.

PLUMBING SPECIFICATIONS (Cont'd).

Laying Pipes and Fittings

- A. No defective pipe nor fitting shall be laid or placed in the piping system and any defective item discovered shall be replaced.
- B. Each pipe and fitting shall be cleaned of all debris, dirt, etc., before being laid and shall be kept clean until accepted with the completed work. Pipe fittings shall be laid accurately to the lines and grades indicated as required. Care shall be taken to ensure a good alignment both horizontally and vertically and to give the pipe a firm bearing along its entire length.

Cutting and Making Good

- C. The Contractor shall furnish certificates of guarantee from the manufacturer of specialities furnished under this contract to the effect that they will furnish new parts or apparatus where defects occur due to faulty manufacture, for the period of one year from date of final acceptance.

Sleeves

- D. The Contractor shall supply all sleeves for openings, etc. as required.
- E. The type of sleeve supplied and the nature of their installation for the particular application shall be as described in these specifications and the drawings.

Foundations and Plinths

- F. The contractor shall supply and position all necessary foundation bolts, and do all final grouting and rubbing required by his equipment. Where cork, anti-vibration pads and other such specialities are required below the equipment foundation, they shall be supplied and installed by the Contractor.

Licensed Plumber

- G. Unless otherwise agreed, **a WASA licensed plumber shall be in attendance at all times, during execution of the plumbing works. The onus is on the plumber to seek WASA's approval, periodic inspections and final connections.**

Codes, Permits, etc.

- H. All materials furnished and work done shall comply with the Trinidad and Tobago Plumbing Code. The Contractor shall give all necessary notices, fill all plans, obtain all permits and pay all fees or other costs in connection with this work. He shall obtain all certificates of inspection which he shall deliver to the Consultants who will then distribute copies to all concerned.

Temporary Closure

- J. When pipe laying is not actually in progress, the open ends of pipes shall be closed by temporary water tight plugs or by other approved means.

Cleaning

- K. Prior to the pressure and leakage tests, pipe shall be thoroughly cleaned of all dirt, dust, oil, grease and other foreign material. This work shall be done with care to avoid damage to inside coating where applied.

PLUMBING SPECIFICATIONS (Cont'd).

A. Field Testing, Water, Waste and Sewer Installations

Except as otherwise directed, all pipe lines shall be tested. Pipe lines laid in excavation or bedded in concrete shall be tested prior to field painting.

- B. All testing shall conform to the requirements of the Sanitary Authority or other appropriate authority where applicable and shall be to the satisfaction of the Employer. All approvals of tests to be verified in writing.

Adjustments and Cleaning

- C. After all fixtures are completely set and connected, the Contractor shall adjust the various valves, fixtures, fittings, etc., so that the proper delivery of water is obtained at all fixtures. Before work is finally turned over to the owner, the Contractor shall make such additional adjustments as may be found necessary to deliver the job in proper working condition.
- D. At this time all fixtures, escutcheons, fittings and nameplates, pipe coverings and finishes in general shall be completely gone over by the Contractor and left in a finished and neat condition.
- (a) Clean all parts of the installation exposed to view.
 - (b) Protect from weather and/or oxidation all parts of the installation.
 - (c) Provide means of identification of all parts of the installation.
 - (d) Touch up point of factory finished equipment.
 - (e) Clean, dust, varnish, polish, touch up, etc., all of the above for final inspection.

TECHNICAL SPECIFICATIONS

FOR THE UPGRADE OF THE ELECTRICAL SYSTEM

ELECTRICAL INSTALLATIONS

Generally

- A. The whole of the work is to be carried out by a licensed electrical contractor in accordance with the Trinidad and Tobago Electrical Commission, the Government Electrical Inspectorate regulations and all bye-laws.
- B. The contractor shall be governed by all general conditions included with these specifications. Clauses in the Supplementary Technical Specification shall take precedence over similar clauses in this Technical Specification.

Materials

- C. All materials (conduits, cables etc.), shall be those approved by the Ministry's representative, Electrical Inspectorate and the Trinidad and Tobago Electrical Commission.

Tests

- D. The whole of the installation shall be tested for continuity, safety, proper installation, materials and workmanship to the satisfaction of the Ministry's representative, the Trinidad and Tobago Electrical Commission and the Government Electrical Inspectorate. The certificate of approval; must be obtained and handed to the Ministry's representative on completion.

Chasing and Cutting

- E. The contractor shall arrange all openings that may be required for the work of this contract. Wherever conduits are to be installed in block work, the conduits are to be threaded through the cells of the concrete blocks with the blocks neatly broken at the location of the outlets and switches.

Protection

- F. The contractor shall protect the work of this contract from damage of any cause. Cover, plug or cap openings in the work to prevent collection of dirt, dust, drainage, debris, *etc.*, during construction and all finished surfaces shall be especially protected so that no tool marks or scratches mar the finished surface.
- G. All damaged work shall be removed and replaced with new material in perfect condition to the satisfaction of the Ministry's representative at no additional cost to the Owner. Damaged painted finishes may be retouched at the discretion of the Ministry's representative.

TECHNICAL SPECIFICATIONS (Cont'd).

WIRING METHODS

Conduits

- A. Except where otherwise stated, E.M.T. or P.V.C. Conduits installed in accordance with the regulations shall be used. Any single run of conduit shall be limited to a maximum of two (2No) 90° bends or equivalent. Any pull boxes required to accomplish this shall be installed whether shown on the drawing or not. All conduit runs shall be concealed unless above suspended ceilings. During construction, all conduits shall be kept clean by sealing the open ends with metal or paper pennies and bushings. All conduits are to be swabbed clean and dry before wiring is pulled in. Running threads are not to be used in rigid conduit runs or connections to equipment. Only approved fittings for rigid conduits are to be used for this purpose.

Outlet Boxes

- B. Switches shall be mounted at a standard height of 1372mm from the floor and shall be located on the strike side of doors as finally hung, whether so indicated on the plans or not. Wall outlet boxes shall be located at a height of 457mm from the floor, except where otherwise noted, directed or required.
- C. All E.M.T. conduits and boxes shall be galvanized coated by the electrolysis process and shall meet the requirements of the U.L. or C.S.A. specifications. All flush or surface mounted exterior outlet boxes and all interior surface mounted wall outlet boxes for use with E.M.T. Conduits shall be galvanized or malleable iron conduit fittings, threaded for conduit connections. Covers for exterior boxes shall be watertight type complete with gasket.

Inserts, Anchors, Hangers and Supports; *All to be corrosion treated*

- D. Connections to masonry or concrete shall be made using expansion type lead anchors set in properly drilled holes or made using self-drilling expansion type fasteners. Welded studs shall be used for fastening equipment to structural steel members. Where conduit of equipment is to be fastened to insulations, the contractor shall install hardwood bucks prior to the insulation being applied. Exposed conduits and exposed cables where installed shall be supported by approved individual hangers, clamps and clips installed at approved spacing. All exposed cables, where utilized, shall be installed in straight vertical horizontal runs only with support spacing to ensure rigidity. No sags will be allowed in any exposed cable runs.

Workmanship

- E. All wiring raceways shall be lined up parallel or at right angles to building lines. Equipment shall be accurately set, plumbed and levelled and hanger rods shall be vertical. The entire work shall present a neat and clean appearance on completion.

TECHNICAL SPECIFICATIONS (Cont'd).

CONDUCTORS AND CABLES

Low Voltage Conductors

- A. No wire smaller than 2.5mm², except as otherwise stated, may be used except for signal control circuits. All receptacle circuits shall be wired with 4.0mm² conductors unless otherwise scheduled or noted. All lighting circuits shall be wired with 2.5mm², except as otherwise stated, wire for conduit runs of less than (100ft) 30.48m, 4.0mm² wire should be used for longer runs, in all cases limiting the voltage drop to 2%, from panel board to load centre. P.V.C. insulated copper conductors in rigid metallic conduit should be used or XLPE armoured cable in the larger sizes. Mains and feeders shall run their entire length in continuous pieces without joints or splices. Joints in branch circuits shall occur only where such circuits divide as shown on the plans, and shall then consist of one through circuit to which shall be spliced the branch from this circuit.

Conductors and Coding

- B. All new conductors shall be stranded copper. All new feeders and sub-feeder wiring installed inside the building shall be P.V.C. insulated copper conductors rated 600/1000Volts. Wiring shall be sized as indicated in the drawings or of sufficient size to ensure that a maximum of 2% voltage drop from the distribution centres to the equipment and fixtures under full load conditions is obtained. Unless otherwise specified branch wiring shall be identified by the colour of the insulation or by plastic tube type wire markers expanded on the conductors: -

Phase A: **Red**
Phase B: **Yellow**
Phase C: **Blue**
Neutral: **Black**
Earth: **Green**

- C. For motor wiring, where single colour conductors are used for all the phases, wire markers are to be installed at both ends of all runs to clearly identify each group of three (3) wires.

TECHNICAL SPECIFICATIONS (Cont'd).

Conductor Labelling / Identification

- A. All cables, with the exception of final sub-circuit wiring or cables that are enclosed in trunking or conduits, shall be affixed with labels at each end of the cable, either side of wall and floor penetrations, at approximately 10 meter intervals on route or at convenient inspection points by means of non-releasable plastic straps unless otherwise stated. Labels shall contain the following information:
- Cable size & Number of conductors: e.g. 4 core x 120mm² XLPE
 - Cable "To / From" information: From "MDP" to "CSP"
 - Length of cable run installed
- B. The contractor shall provide samples of the cable Tag and Tag information for approval prior to installation.
- C. Cabinets, Switchboards, Distribution Panels: *All to be corrosion treated*

Cabinets

- D. The contractor shall furnish and cabinets to serve the several purposes indicated. Cabinets shall be of the sizes required and shall be flush mounted unless otherwise stated. All cabinet boxes shall be rigidly constructed from stainless steel grade 316 or better. Material gauge shall conform to code requirements except that no material lighter than No. 14 gauge shall be used for the main distribution panels as discussed in the 'General' section. Electrical distribution panels rated less than 200Amp can be made from 16gauge stainless steel grade 316 or better. Corners shall be overlapped or welded. Edges shall be turned over. Fronts shall be cut from single sheets of stainless steel not less than No. 14 gauge or No. 16 gauge depending on the amperage. Fronts shall be fastened in place by toggle bolts, or other adjustable fasteners that will allow levelling and plumbing. Each door shall be provided with a substantial flush type lock and catch.

Lighting and Power

- E. Except as otherwise stated, the main switchboard and panels shall be of the Moulded Case Circuit Breaker Type, of size and amperage as indicated in the relevant codes. The Switchboard and Panels shall be constructed of No. 14 gauge stainless steel. Construction must cater for a minimum of 102mm of gutter space all around.

TECHNICAL SPECIFICATIONS (Cont'd)

WIRING DEVICES

Switches

- A. Except as otherwise stated, wall switches for fluorescent lighting shall be rated 20Amp, 120Volts to ground. Wall switches for incandescent lighting shall be rated 15Amps, 120Volts single pole. For systems employing 230Volts or 277Volts, Line to Neutral Lighting Fixtures, the Switches shall be rated at 20Amps, 230 or 277Volts, Single Pole: For systems utilizing 230Volts Line to Line fixtures the switches shall be 20Amps Double Pole.

POWER WIRING

Air Conditioning System

- B. The electrical contractor shall supply and install all the power cabling and isolators associated with the air conditioning system. The starters associated with the air conditioning system shall be supplied and installed by the Air Conditioning contractor. The electrical contractor shall supply and install all the wiring up to the air conditioning equipment (motor heads), via the isolators and starters. This shall be done in conjunction with the Air Conditioning contractor. The actual connection to the terminals of the air conditioning equipment shall be by the Air Conditioning contractor. *The electrical contractor is NOT responsible for the final connection of the power cables to the air conditioning equipment; this is the responsibility of the Air Conditioning contractor.* It is the responsibility of the Air Conditioning contractor to ensure that the power provided to his equipment is of the correct voltage and phase before connecting his equipment. Any discrepancies regarding the quality of power supplied to the Air Conditioning equipment should be brought to the attention of the Electrical contractor and it is the responsibility of the electrical contractor to rectify the situation.

ELECTRICAL

- C. 230V / 1 Phase / 60cycle / 20amp breakers – 12 000 &18 000 BTU
D. 230V / 1 Phase / 60 cycle / 30amp breakers – 24 000 BTU
E. 230V / 1 Phase / 60 cycle / 40amp breakers – 36 000 BTU
F. 230V / 1 Phase / 60 cycle / 60amp breakers – 60 000 BTU

All with weatherproof isolator box.

3.0 WORKS TO BE DONE

WORKS TO BE DONE

NOTES:

- (i) Dimensions and quantities stated are approximate. Tenderers are to visit the site and verify all dimensions and quantities, existing conditions and prices should include for these.
- (ii) The descriptions below are to be read in conjunction with the relevant specifications in the materials and workmanship section
- (iii) The contractor may include in the price of the measured work Nr. any considerations arising from said specifications

WORK TO BE DONE

Item	Description	Qty.	Unit	Rate	Cost
	<p>DEMOLITION</p>				
A.	Carefully take out roof sheeting and store on site.		Item		
B.	Take down ceilings and dispose in an approved manner offsite.		Item		
C.	Carefully demolish part block walls and dispose of rubble offsite.		Item		
D.	<p>MASONRY</p> <p>4" thick hollow clay block laid in sand cement (1:4) mortar mix and finished fair face.</p>	378	S.F.		
E.	<p>ROOF</p> <p>Double bubble radiant heat barrier, fixed to metal purlins, including all necessary screws, clips, fasteners, joint tape and the like. (Approximately 1655 sq. ft.)</p>	697	S. Y.		
F.	Roof sheeting from store, fixed to metal purlins, including all necessary sealants, screws, clips and fasteners.		Item		
G.	26ga. white metal soffit to eaves including wall angles and the like, screwed to metal framing.	166	S.Y.		
H.	Make good all works disturbed in the process		Item		
J.	Protection of all works		Item		
	To Summary				

WORK TO BE DONE Cont'd

Item	Description	Qty.	Unit	Rate	Cost
A.	CARPENTRY AND JOINERY 1¾" thick solid core flush laminated timber doors with "wilsonart" or equal and approved laminate and hardwood lip, including 2" x 4" standard heavy duty aluminum frames with two hinges all to fix door in masonry opening 3'-0" wide x 6'-8" high.	12	Nr.	2,000.00	24,000.00
B.	20" x 58" x 1½" thick urinal dividers with "wilsonart" or equal and approved laminate, fixed to blockwalls in approved manner.	4	Nr.	1,000.00	4,000.00
C.	Allow a provisional sum of \$10, 000.00 for minor repairs to existing timber doors		Allow		10,000.00
D.	Include a Provisional Sum of \$12,000.00 for cupboards, shelving and other joinery items		Allow		12,000.00
E.	RAINWATER INSTALLATIONS Allow a Provisional Sum of \$48,000.00 for remedial works to rainwater guttering and downpipes, including all necessary fittings and fixing.		Allow		48,000.00
F.	PLUMBING INSTALLATIONS Allow a Provisional Sum of \$25,000.00 for plumbing works to Bathrooms (4Nr.)		Allow		25,000.00
G.	ELECTRICAL INSTALLATIONS Allow a Provisional Sum of \$25,000.00 for electrical works in dormitories (4Nr.)		Allow		25,000.00
H.	Make good all works disturbed in the process		Item		4,000.00
J.	Protection of all works		Item		2,000.00
	To Summary				

WORK TO BE DONE Cont'd

Item	Description	Qty.	Unit	Rate	Cost
A.	<p>FINISHES CEILINGS ½” thk. cement board sealed and finished to a smooth texture, screwed to metal framing suspended from roof framing members, including all fixings and fittings, hangers and metal support.</p>	578	S.Y.		
B.	<p>PAINTING AND DECORATION Prepare and apply one (1) undercoat and two (2) coats emulsion to masonry surfaces externally.</p>	743	S.Y.		
C.	<p>Prepare and apply one (1) undercoat and two (2) coats emulsion to masonry surfaces internally.</p>	920	S.Y.		
D.	<p>Prepare and apply one (1) undercoat and two (2) coats emulsion to ceiling soffits.</p>	578	S.Y.		
E.	<p>Prepare and apply two (2) coats gloss paint to metalwork.</p>	27	S.Y.		
F.	<p>Prepare, prime, knot and stop, apply two undercoats and one coat oil paint on timber doors.</p>	19	S.Y.		
G.	<p>Make good all works disturbed in the process</p>		Item		
H.	<p>Protection of all works</p>		Item		
	<p>To Summary</p>				

WORK TO BE DONE Cont'd

Item	Description	Qty.	Unit	Rate	Cost
	<p>SUMMARY</p> <p>Page Nr. 3/2</p> <p>Page Nr. 3/3</p> <p>Page Nr. 3/4</p>				
	<p>CARRIED TO GENERAL SUMMARY \$</p>				

4.0 GENERAL SUMMARY

5.0 TECHNICAL AND FINANCIAL SPECIMEN FORMS*

Form 1: Appendix to Tender

Form 2: Form of Tender

Form 3: Applicant Information Sheet

Form 4: Work Experience of Firm

Form 5: Similar Type of Works

Form 6: General Background and Organization

Form 7: Methodology and Work Plan

Form 8: Curricula Vitae for Proposed Key Professional Staff

***ALL FORMS ARE TO BE FILLED OUT AND RETURNED IN THE PROPOSAL**

FORM 1: APPENDIX TO 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]

Nr.	Sub-Clause	Data
Documents forming the Contract listed in the order of priority	1.1.1	
Document		Document Identification
(a) Letter of Invitation		_____
(b) The Agreement		_____
(c) Particular Conditions		_____
(d) General Conditions		_____
(e) The Specification		_____
(f) The Bill of Quantities		_____
(g) Form of Tender		_____
(h) Performance Bond		_____
Time for Completion	1.1.9	_____ weeks
Law of the Contract	1.4	Laws of the Republic of Trinidad and Tobago
Language	1.5	English
Provision of Site	2.1	To be Agreed
Authorised Person	3.1	The Ministry of Sport and Youth Affairs or its Nominated Representative
Name and Address of Employer's Representative (if known)	3.2	#2 Elizabeth St., St. Clair
Performance Security (if any)	4.4	N/A

FORM 1 (Continued)

Nr.	Sub-Clause	Data
Requirements for Contractor's Design (if any)	5.1	NA
<i>Programme</i>		
Time for Submission	7.2	Within Five (5) working days of Commencement Date
Form of Programme	7.2	Bar Chart
Late Completion	7.4	\$300.00 per day up to a maximum of 20% of Sum stated in Agreement
Remedying Defects	9.1 & 11.5	Six (6) months calculated from The date stated in the Notice under Sub-Clause 8.2
Variation and Claims		
Valuation of Variations	10.2	(a) to (d)
Contract Price at Payment		_____ (details)
<i>Valuation of the Works</i>		
Lump Sum Price	11.2	N/A
Lump Sum Price with Schedules of Rates	11.3	N/A
Lump Sum Price with Bill of Quantities	11.1	As per tender
Measurement with Tender Bills of Quantities	11.1	N/A

FORM 1 (Continued)

Nr.	Sub-Clause	Data
<i>Valuation of the Works (Continued)</i>		
Cost Reimbursable	11.1	N/A
Percentage of Value of Materials and Plant	11.2	Materials - 80% Plant - N/A
Percentage of Retention	11.3	10% with 5% after Practical Completion
Currency of Payment	11.7	T&T Currency
Rate of Interest	11.8	N/A
Insurances	14.1	
Type of Cover	Amount of Cover	Exclusions
The Works, Materials, and Plant	The Sum stated in the Agreement plus 15%	_____
Contractor's Equipment	Full Replacement Cost	N/A
Third Party Injury to Persons and Damage to Property	1,000,000.00	_____
Workmen's Compensation	500,000.00	_____
Fire/Theft	500,000.00	_____
Arbitration Rules	15.3	Arbitration Rules of T&T
Appointing Authority	15.3	President of the Board of Engineering of Trinidad and Tobago
Place of Arbitration	15.3	Trinidad

FORM 2: FORM OF TENDER

Date:

Permanent Secretary
Ministry of Sport
#2 Elizabeth Street
Port of Spain

Dear Sir/Madam,

RE: For the Works – PROPOSED REFURBISHMENT WORKS TO DORMITORIES AT THE CHATHAM YOUTH DEVELOPMENT AND APPRENTICESHIP CENTRE.

I/We having visited the site and taken note of the services issued in connection with these Works and having made due allowance for Addenda Nos. , do hereby offer to furnish all labor, equipment and materials in providing the works, for the fixed price ofpayable in Trinidad and Tobago Currency or such other sum as may be determinable by the Conditions of Contract VAT Inclusive.

I/We agree to hand over the work duly completed to your entire satisfaction within (inclusive of Sundays and Public Holidays) calculated from the date on which contract is signed.

This Tender is submitted without any collusion, conflict of interest, corrupt and fraudulent practice with any other officer, employee or person acting for the Proponent.

It is understood that this offer shall remain open for acceptance for a period of Ninety (90) days and that you do not bind yourself to accept any tender nor to be responsible for any expenses incurred in estimating any tender received.

Signature in the capacity of

..... duly authorized

to sign tenders for and on behalf of

.....

(IN BLOCK LETTERS)

Address

Date

Company Stamp.....

FORM 4: WORK EXPERIENCE OF THE FIRM
(To be filled out and returned in the Proposal)

Name of Proponent: _____ Date: _____

Page _____ of _____ pages

Contract Identification	Starting Month / Year	Ending Month / Year	Planned Construction Duration	Actual Construction Duration	Role of Applicant	Original Contract Value \$	Final Contract Value \$
Contract name: Brief Description of the Works performed by the Applicant: Name of Contracting Entity: Address: Contact Person Contact Number							
Contract name: Brief Description of the Works performed by the Applicant: Name of Contracting Entity: Address: Contact Person Contact Number							

FORM 5: SIMILAR TYPE OF WORKS
(To be filled out and returned in the Proposal)

Name of Proponent: _____ Date: _____

Page 1 of 2 pages

Project Name: ____ of ____ required.	Information
Description of the similarity in accordance with the Design Brief and Scope of Services	
1. _____	
2. _____	
3. _____	
4. _____	
5. _____	
6. _____	

FORM 5: SIMILAR TYPE OF WORKS CONTINUED

(To be filled out and returned in the Proposal)

Name of Proponent: _____ Date: _____

Page 2 of 2 pages

Project Name: _____ of _____ required.	Information		
Contract Identification	_____		
Award date	_____		
Initial Completion date	_____		
Actual Completion date	_____		
Role in Contract	<input type="checkbox"/> Contractor	<input type="checkbox"/> Management Contractor	<input type="checkbox"/> Subcontractor
Original contract amount	_____		TT\$ _____
Final contract amount	_____		_____
Variance	_____		_____
If party in a JVCA or subcontractor, specify participation of total contract amount	_____ %	_____	TT\$ _____
Contracting Entity's Name: Contact Person	_____		
Address:	_____		
Telephone/fax number:	_____		
E-mail:	_____		

FORM 6: GENERAL BACKGROUND AND ORGANIZATION

(To be filled out and returned in the Proposal)

Name of Proponent: _____

Date: _____

Page _____ of _____ pages

Contract Fulfillment History - Non-Performing Contracts			
Has the Firm (or any constituent part) been liable for failing to comply with the fulfillment of a contract at any time during the last five years?			
<input type="checkbox"/> No <input type="checkbox"/> Yes <i>If yes, give below, or if necessary on a separate attachment details regarding any contract non-performance issues current or during the last five (5) years.</i>			
Pending Litigation			
Has the firm (or any constituent part) been named party to any litigation proceedings during the last five (5) years? <input type="checkbox"/> No <input type="checkbox"/> Yes <i>If yes, give below, or if necessary on a separate attachment details regarding any litigation current or during the last five (5) years in which you were a named party.</i>			
Year	Outcome as percent of total assets	Contract Identification	Total Contract Amount (current value, TT\$ equivalent)
_____	_____	Contract Identification: Name of Contracting Entity: Address of Contracting Entity: Matter in dispute:	_____

OSHA violations, Workers Compensation claims or Safety claims

Has the firm (or any constituent part) been named party to any OSHA violations, workers' claims or safety claims during the last five (5) years?

- No**
 Yes

If yes, give below, or if necessary on a separate attachment details regarding any OSHA violations, Workers Compensation claims or Safety claims current or during the last five (5) years in which you were a named party.

Year	Outcome as percent of total assets	Contract Identification	Total Contract Amount (current value, TT\$ equivalent)
_____	_____	Contract Identification: Name of Contracting Entity: Address of Contracting Entity: Matter in dispute:	_____

Statutory Approval Violations

Has the firm (or any constituent part) been named party to any Statutory Approval violations during the last five (5) years?

- No**
 Yes

If yes, give below, or if necessary on a separate attachment details regarding any Statutory Violations current or during the last five (5) years in which you were a named party.

Year	Outcome	Contract Identification	Total Contract Amount (current value, TT\$ equivalent)
_____	_____	Contract Identification: Name of Contracting Entity: Address of Contracting Entity: Matter in dispute:	_____

FORM 7: METHODOLOGY AND WORK PLAN

(To be filled out and returned in the Proposal)

[Technical approach, methodology and work plan are key components of the Technical Proposal. It is recommended that you present your Technical Proposal divided into the following two chapters:

- a) Technical Approach and Methodology*
- b) Work Plan*

*a) **Technical Approach and Methodology.** In this chapter you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.*

*b) **Work Plan.** In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones and delivery date. Detailed Gantt chart indicating key tasks and time frame.*

**FORM 8: FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED
KEY PROFESSIONAL STAFF**

(To be filled out and returned in the Proposal)

Page 1 of 2

Name of Proponent: _____

Name of Staff: _____

Profession: _____

Date of Birth: _____

Years with Firm/entity: _____ National: _____

Membership in Professional Societies: _____

Detailed Task Assigned: _____

Key Qualifications:

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and location. Use about half a page.]

Education:

[Summarize college/university and other specialized education of staff member, giving names of school, dates attended and degrees obtained. Use about half a page.]

FORM 8: FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED KEY PROFESSIONAL STAFF

(To be filled out and returned in the Proposal)

Page 2 of 2

Employment Record:

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of position held, and locations of assignments. For experience in the last ten years, also give types of activities performed and client references, where appropriate. Use about three-quarters of a page.]

Languages:

[For each language indicate proficiency: excellent, good, fair, or poor; in speaking, reading, and writing]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

Date: _____

[Signature of staff member and authorized representative of the Firm]

Full Name of staff member: _____

Full Name of authorized representative: _____