



**Republic of Lebanon
Council for Development and Reconstruction**

**BRISSA DAM AND RESERVOIR
Full Lining and Additional Water Diversion
Caza of Danniyeh**

Tender Documents

Bill of Quantities - Volume III

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TABLE OF CONTENTS

- **PREAMBLE**
- **BILLS**

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**PREAMBLE TO
BILL OF QUANTITIES**

PREAMBLE TO BILL OF QUANTITIES

1- INTRODUCTION

- The rules contained in the preambles apply to the whole works and bill items
- Description of items in the Bill of Quantities is complementary to the Specifications and Tender Drawings. Information, which is given on the Tender Drawings and Specifications, is not necessarily repeated in the Bill of Quantities and visa-versa. Compliance with descriptions and requirements given in the Specifications, Tender Drawings, General rules, Preambles and Bill of Quantities are deemed to be covered in the unit rates, for all documents are complementary to each other and mutually explanatory.

2- QUANTITIES

- Work is measured net as fixed in position shown on Tender Drawings except otherwise stated in the method of measurements defined under each item in the Bill of Quantities
- Dimension used in calculating quantities are taken to the nearest 10 mm (i.e. 5 mm and over as 10 mm and less than 5 mm is disregarded)
- Quantities are given to the nearest whole unit except that any quantity less than one unit is given as one unit.
- Unless otherwise stated, where minimum deduction of voids is dealt with, reference is made only to openings within boundaries of measured area. Openings that are at boundaries of measured areas are always deducted irrespective of size.

3- DESCRIPTIONS

- Headings to groups of items in the Bill of Quantities are to be read as part of the descriptions of the items to which the headings apply.
- Itemized works in each division are supposed to cover all related works for the completion of the item in full compliance to specification and code of practice.
- Unless otherwise specifically stated in the Bill of Quantities or herein, the following is deemed to be included in the rate of each item:
 - Compliance to tender documents: Conditions of contract, Specification, Drawings, Bill of Quantities & any notified addenda forming part of the tender
 - Manpower and all costs in connection therewith-such as social security, transport allowance etc.
 - Materials, goods and all cost in connection therewith such as shipment, shipment insurance, clearance, custom dues, port duties etc.
 - Assembling, fittings and fixing materials and goods in position
 - Any method of fixing, fixing to any base nature or background including preparation of composite items manufactured off site.
 - Plants provision, Machinery, Equipment, & tools and all costs in connection therewith such as lubricants, maintenance & repair etc
 - Scaffoldings, Timber, Plywood and accessories and all costs in connection therewith such as mould release agent, spacers etc.
 - Square, raking and curved cutting, bending and the like

- Work to any location and at any height, horizontal, vertical, inclined or curved
 - Work in small, large or isolated quantities
 - Protection of works and compliance to safety standards
 - Detailed design, execution details, methodology, execution drawings, shop drawings, manuals which shall be considered complete when approved by the resident engineer
 - Provision of Standards for relevant works
 - Coordination, installation and the like
- For they are itemized in this Bill of Quantities, namely item I-1, I-2-1, I-3, & I-4, and are to be priced separately by the contractor, provision of the following remains and is deemed to be included in the bill items rate as an uplift factor:
 - Performance bond
 - Bid preparation expenses & bid bond cost
 - All risk insurance, third party liability & workmanship compensation
 - Stamp dues for contract signature
 - Tax dues
 - Cumulative value of interest on unpaid sums
 - Letters of credit expenses & interest
 - Engineer honorary fees if any
 - Royalties if any
 - Main office overhead
 - Risk & contingencies
 - Loss & profit

4- **SYMBOLS, ABBREVIATIONS & DEFINITIONS**

- The following symbols and abbreviations are used in the method of measurement specified under each bill item rate:
 - 'sq = square
 - 'cu = cubic
 - 'm or lm = linear meter
 - 'm² = square meter
 - 'm³ = cubic meter
 - 'cm = centimeter
 - 'mm = millimeter
 - 'Nr = number
 - 'kg = kilogram
 - 'Ton = ton
 - '%' = percentage
 - 'Dia. = diameter
 - 'DN. = nominal diameter
 - 'PN = nominal pressure

- 'Qty = quantity
 - 'Drwg = drawing
 - 'Unit = unit
 - 'Hr = hour
 - 'P.S. = provisional sum
 - 'LS = lump sum
- The following definition apply to all works itemized in the Bill of Quantities
 - "Horizontal" means leveled or sloped work not exceeding 10 degrees from the horizontal
 - "Sloped" means sloped works exceeding 10 degrees but below 80 degrees from horizontal
 - "Vertical" means sloped works exceeding 80 degrees from the horizontal
 - The term "extra over" means the work so described involves extra cost on the basic activities forming it. No deduction of the quantity of work is made for the extra over work.

5- **BILL OF QUANTITIES**

- Preambles

The quantities are approximate and indicative, the contractor must ascertain by him-self the actual quantities and items required before ordering any material. The contractor is to allow in his tender for all items, materials and workmanship which make part of the work and are not mentioned in the Bill of Quantities as no extra payment shall take effect or be accepted or allowed for such claims. This is due specially for the contractor shall be deemed to have visited the site and investigated all local site existing conditions as stipulated in the conditions of contract.

The contractor is required to fill in a rate for each item of the Bill of Quantities whether quantities are stated or not.

Any missing rate to a Bill of Quantities item shall be deemed to be valued as nil and all relevant works are to be performed by the contractor.

Any rate to a Bill of Quantities item termed "included" shall be considered as ventilated over the whole Bill of Quantities items and all relevant works are to be performed by the contractor.

The preambles are applicable to the whole of the Works and shall be read in conjunction with the particular measurement stated in the Bill of Quantities items, as they are mutually complementary.

The Bills of Quantities are to be read in conjunction with the Tendering Procedure, the Conditions of Contract, the Drawings, the Specifications, the Addenda & any other documents issued by the engineer, if any, which shall be taken as complementary to each other and mutually explanatory.

Each Bill of Quantities item is deemed to include the costs of all elements required for its proper execution, even if some elements are not specified in the item description or rate inclusive elements.

- Measurements

Measurements have been made in accordance with the rules and methods set up in general rules and in the particular element description for Bill of Quantities items forming the rate.

The rates for measured items shall be deemed to include all necessary materials, manpower, machinery etc. for the full completion of the items in accordance with international code of

practice, standard practice, the Design, the Drawings, the Specifications including any incidental item whether specified, shown or not.

The contractor shall inform the Engineer within a period of Two months after site possession and receipt of the letter to commence about any difference and discrepancy between the topographical survey undertaken by himself in the presence of the supervising engineer and that adopted in the design phase. The same shall be informed for quantity measurements, design remarks and clarification within the same period. The Engineer shall upon the aforesaid receipt take adequate measures for setting the project in course.

Prior to contract agreement signature, the employer shall have the right to narrow the scope of work by eliminating any work section in order to meet his budget, thus reducing or eliminating any Bill of Quantities item. The new revised contract sum shall take effect without altering or modifying the contractor responsibility towards the contract nor allowing him to request any claim or variation thereof.

- Pricing

The contractor shall satisfy himself as to the meaning of every item in the Bill of Quantities, and the contract price is deemed to cover all his obligations under the contract and all matters and things necessary for the proper construction, completion, operation and maintenance of the works. It is to be borne in mind that the rates shall include compliance to the requirements of all Tender Documents not specifically priced as Bill of Quantities items.

No claim for additional payment will be allowed for any error or misunderstanding by the contractor in respect of performance of his obligations under the contract and full compliance to the whole Tender Documents.

Any item not priced by the contractor in the Bill of Quantities shall be deemed to be covered by other rates.

Any arithmetical error made by the contractor in extensions or totals in the Bill of quantities shall be corrected as follows:

If any error is found, the difference between the tendered total and the corrected total of the tender value will be adjusted either by amending individual rates by agreement. Another method would be adjustment by percentage calculated upon the total amount of all errors in relation to the total Tender value so that the original tendered total remain unaltered.

All prices are to be fully extended in United States Dollars unless otherwise stated in the Bill of Quantities.

BILLS

PART 1 - COMPULSORY PART

BILL I- GENERAL WORKS

BILL II- DAM AND LAKE FULL LINING SYSTEM

BILL III- INFLOW CONTROL SYSTEM

BILL IV- DAYWORKS

COLLECTION SHEET -PART 1

PART 2 - OPTIONAL PART

BILL V- DIVERSION SYSTEM

COLLECTION SHEET – PART 2

COLLECTION SHEET – PART 1+2

PART 1 - COMPULSORY PART

BILL I - GENERAL WORKS

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
I-1	<p><u>MOBILIZATION / DEMOBILIZATION</u></p> <p>The rate shall include the full mobilization / demobilization of all resources and equipment necessary for the execution and completion of the works. The rate shall also include the design and construction of offices, stores, workshops, clinics and all other facilities required for the completion of the works under this Contract. The price shall be paid as a lump sum and the works shall include, but not limited to:</p> <ul style="list-style-type: none"> - Insurance of works, equipment and personnel - Defect insurance (10 years) covering any defect in any element of the membrane complex or in its physical external protection. - Protection of public and private properties, - All necessary procedures for the supply and testing of material in conformity with the specifications and as directed by the Engineer, - Temporary works and site protection, watching, fencing and lighting, - Supplying the required equipment in order to execute all the required works including but not limited to: <ul style="list-style-type: none"> • Transport material and equipment to the different parts of the project, • Ensure storage areas and disposal sites, • Generate compressed air, • Supply water and power to complete the works, • Keep the site free of water for excavation, backfilling and concrete works, • Supply compressed water (not less than 2 bars), • Accomplish excavation including removal of excavated material and backfilling, • Accomplish filling and compacting of different types materials • Install the waterproofing complex with all necessary accessories • Mix, transport and cast concrete including reinforcement steel works, • Supply, install and test pipes and related fittings and accessories, • Install wrought steel • Perform geotechnical and geophysical investigations, • Supply, install and test mechanical, electrical, hydraulics and electromechanical equipment, • Boreholes drilling with all related works. - Providing water (including potable water), power, sanitary facilities and communication means (telephones, cellular phones, ...) 				

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Management, operation and maintenance of site equipment, - Construction and maintenance of access and service roads for different sites, disposal sites, Contractor working area, concrete batch plant, etc ... Access and service roads shall be constructed prior to the beginning of the works and shall be kept in good condition for traffic for the whole duration of the project. Unless the bill of quantities includes separate items for construction and maintenance of access and service roads, all costs pertaining to this matter shall be deemed to be included by the Contractor in his unit rates for this item and shall not be paid for separately. - Indemnification and remedying of all damages caused by the execution of the works to the private or public properties, - Guiding and protecting traffic and pedestrians through areas of construction including the erection of signs, barriers and lighting, - Removal of utilities, plants, machinery and all other facilities after the completion of the works including reinstatement to the Engineer's satisfactory, - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure continuous irrigation water supply from the existing sources during the whole irrigation period, - Ensuring that all parts of the project are operating as required after the completion of the works and after testing and remedying of all defects that may appear while testing, - Completion of all procedures necessary for the taking over and commissioning, - All items necessary to complete the mobilization / demobilization including all related costs. <p>The rate shall also cover providing, furnishing, maintaining and cleaning of the Resident Engineer's office including all related costs. The Resident Engineer's office shall be suitably located in the project zone and shall be composed of 2 offices, a WC and a kitchen and shall be equipped with all the necessary items for the good performance of the supervision team, these items shall include but not be limited to:</p> <ul style="list-style-type: none"> - Tables, desks, rolling chairs, chairs, shelves, cabinets, etc., ... - 2 Computers (recent processor), network installation, internet DSL connection, printer (A3), photocopier, fax machine, stationery, ... - Coffee machine and refrigerator - Electrical supply, potable water supply, toilet, sewage disposal system, ... - Air conditioners, heaters, - Telephones and related charges including: 1 central for telephone and one land line, 2 cellular lines with a maximum monthly expense of 250US\$. 				
	Only..... USD	1	LS		

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
I-2	<u>CONSTRUCTION DESIGN AND DRAWINGS</u> The price shall be paid as a lump sum and shall include, but not limited to: - Review of all previous and current investigations and reports - Topographic survey of the whole project area - Foundation treatment against cavities and voids - Slope stability checking - Detailed design, calculation notes and detailed drawings for: • Drainage system for reservoir bottom and slopes • Surface preparation based on the requirements of the membrane complex supplier. • Geomembrane complex and physical protection, including: ▪ The selection of the physical protection components: type, materials, characteristics, dimensions, properties,... ▪ The need or not of the lower protection and upper protection ▪ The selection of the physical protection components: type, materials, characteristics, dimensions, properties,... ▪ Conditions of application of the membrane complex ▪ The details, the types, the spacing and the distribution of the anchors based on the type and characteristics of the membrane, the site conditions and the stability requirements of the complex. Anchors on the peripheries are necessary. - Inflow control system - Diversion system				
	Only..... USD	1	LS		
I-3	<u>PREPARATORY WORKS, SHOP DRAWINGS AND AS-BUILT DRAWINGS</u> The price shall be paid as a lump sum and shall include, but not be limited to: - Revision and Verification of all drawings and other Contract documents. - Submitting shop drawings including all the designs and details necessary for the execution of all parts of the works (for which the shop drawings are not included in other items). Shop drawings shall be submitted to the Engineer for approval prior to the commencement of the works. The Contractor shall be solely responsible for the correctness of the shop drawings. - Primary survey works and necessary measures and stakes to locate structures on the ground, - Continuous survey works throughout the project period for evaluation of quantities and for insuring work location. - Final survey works and furnishing of as-built drawings (three copies on paper and one copy on computer diskettes) within a period of four weeks following the completion of the works.				
	Only..... USD	1	LS		

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
I-4	<u>GEOPHYSICAL SURVEY</u> <i>Note: The geophysical survey shall be performed in order to detect potential cavities and/or sinkhole-developments. The GRP is an electromagnetic geophysical method, and its depth of investigation is site-specific and depends on antenna's transmitting frequency. The depth of investigation will be defined by the Contractor, however; it shall in no case be less than 7.5m (sufficient very poor to poor rock-mass cover for a cavity 2.5m in diameter). Accordingly, the electromagnetic method (GPR) may be replaced with any other method by the Contractor (after taking the approval of the Engineer), if found necessary.</i> This item shall be in square meter of surveyed area accepted by the Engineer, and shall include all topographical survey and leveling the land-surface by spreading granular backfill to eliminate irregularities and any other work necessary for the geophysical survey.				
	Only..... USD	55,000	m ²		
I-5	<u>GEOTECHNICAL INVESTIGATION FOR BRISSA DAM AND RESERVOIR SITE</u> <i>Note: The geotechnical investigation shall be performed in order to confirm the anomalies (potential cavities and sinkhole developments) detected during the geophysical survey, and to evaluate the bearing capacities/settlements, material characteristics and any potential geotechnical problems of the foundation soil for sites where structures will be executed and where requested by the Engineer.</i>				
I-5-1	<u>MOBILIZATION/DEMOBILIZATION</u> Including site setup, relocation of the drill rig (s) and machines idle time.				
	Only..... USD	1	L.S.		
I-5-2	<u>CONTINUOUS VERTICAL CORING IN OVERBURDEN AND ROCK</u> This item shall be in linear meter of borehole accepted by the Engineer, quantity of which shall be the distance between the natural ground level and the bottom of rock formation (end of borehole) as measured in situ and determined by the Engineer. This item shall include water for drilling, sampling (disturbed and/or undisturbed) and SPT / DCPT at 1.5m intervals.				
	Only..... USD	515	l.m.		
I-5-3	<u>LUGEON AND/OR BOREHOLE WATER PERMEABILITY TEST</u> This item shall be in unit of test (as directed by the Engineer), including water for testing and pre-saturation.				
	Only..... USD	172	Unit		

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
I-5-4	<u>STANDPIPE OPEN PIEZOMETER</u> This item shall be in linear meter of perforated UPVC pipe (2 inches in dia. and 3.7mm thick wrapped with Geotextile PP-150gr/m ²) installed as directed by the Engineer, including concrete heading, steel-pipe protection with lock, air-lifting and 3 nos. of piezometric survey.				
	Only..... USD	515	l.m.		
I-5-5	<u>STANDARD WOODEN CORE BOXES</u> This item shall be in unit of box with lock.				
	Only..... USD	103	Unit		
I-5-6	<u>TEST PIT</u> This item shall be in unit of test pit excavated (as directed by the Engineer) until reaching the rockhead or to a maximum depth of 2.5m, including sampling (disturbed and/or undisturbed) and infiltration test (if requested by the Engineer).				
	Only..... USD	17	Unit		
I-5-7	<u>LABORATORY TESTS ON SOIL AND ROCK SAMPLES - BOREHOLES</u> This item shall be in unit of set of tests for each borehole, necessary to conclude the soil bearing capacity/settlement in function of the depth in each borehole or to identify geotechnical problems, conducted as directed, & accepted by the Engineer, payable 60% upon test completion and the remaining at the submittal of the final revised report				
	Only..... USD	19	Unit		
I-5-8	<u>LABORATORY AND IN-SITU TESTS ON SOIL AND ROCK SAMPLES - TEST PITS</u> This item shall be in unit of set of tests for each test pit, necessary to identify geotechnical problems, conducted as directed, & accepted by the Engineer, payable 60% upon test completion and the remaining at the submittal of the final revised report				
	Only..... USD	17	Unit		
I-5-9	<u>FINAL REPORT</u> This item shall be paid by unit upon report submittal subject to Engineer consent approval & revision thereto if modification prevails.				
	Only..... USD	3	Unit		
I-6	<u>OPERATION AND MAINTENANCE FOR TWO YEARS</u> The price shall be paid as a lump sum and shall include the complete operation, monitoring and maintenance of the dam, reservoir and diversion works, for 2 consecutive years following the temporary handing over of the project. The works shall includes: - Monitoring of the water levels in the reservoir on a daily basis - Monitoring of the water flows from Brissa spring on a daily basis				

BILL I- GENERAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none">- Monitoring of the water flows in the 2 irrigation pipes on a daily basis- Install geodesic references with concrete blocks on the upstream face of the dam together with water ganging level system for the reservoir consisting of scale bar having 2 columns: one for water level and another on for water volume- Monitoring of the water levels in the piezometers installed the downstream the dam- Topographic survey checking of the dam crest, to detect any movement, and of the dam- Slopes stability visual inspection- Visual inspection of the full lining of the dam and reservoir at the end of each irrigation season to detect any defect- Continuous operation and maintenance of the mechanical and hydromechanical equipment of the dam (inside the upstream outlet room, outlet gallery and downstream control room)- Continuous inspection and cleaning of the overflow structure and insure to be in perfect conditions for overflow discharge at any time- Continuous inspection of the diversion system and the inflow control system and cleaning all kind of deposits of these 2 systems- Insure the safety of the site, prevent the access of public and of any intruder to the site- Continuous safeguarding of the project facilities- Full continuous operation of all the project facilities and structures (executed by the Contractor and executed previously)- Full continuous maintenance of all the project facilities (executed by the Contractor and executed previously)				
	Only..... USD	1	LS		

Total BILL I	
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Only.....
.....United States Dollars

BILL II - DAM AND RESERVOIR FULL LINING SYSTEM

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
II-1	<p>UNCLASSIFIED EXCAVATION</p> <p>This item shall consist of excavating and disposing materials of any kind & type encountered during work. This item shall pertain but not limited to excavation, cleaning of voids, cracks and cavities (by manual means or other means), etc. where needed and instructed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) such as dozers, track loaders, wagon drill, trucks, hand tools, explosives, etc. - Blasting as specified in technical specification subject to the Engineer approval - Temporary disposition of water & electricity necessary for the work execution - Remove, seal, re-route existing utilities, if any, as required subject to Engineer consent - Excavation in any type of soil, to any depth, whatever found to be: Soft, Hard, Clay, Rock, Hard rock etc. - Keeping excavation free of water by any means - Any additional excavation to provide working space for structural works - Planking, strutting, shoring, sheet piling etc. necessary to support the vertical excavation edges - Retrieving excavated material by any means, depositing in temporary heaps, selecting and setting aside approved excavated material to be used in backfilling and as directed by the Engineer, including multiple handling of material. The excavated material shall not be reused for filter, drain and special fills - Cart-away surplus material to dump area where permitted or on tips allocated by the contractor at his own responsibility 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the execution drawing as directed and approved by the Engineer.</p> <p>Whenever excavating deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for over-excavation due to contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	17,000	m ³		

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
II-2	<p><u>COMPACTED FILL & BACKFILL</u></p> <p>This item shall consist of supplying, transporting, placing and compacting one or more layer of fill or backfill materials spread around structures, and where is needed, as specified in technical specification and/or as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure Continuous irrigation water supply from the existing source during the whole irrigation period, - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling, compacting in horizontal or sloped layers with selected excavated material and/or borrow material. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	2,000	m ³		
II-3	<p><u>SELECTED FILL FOR SLOPE STABILISATION ON THE RESERVOIR LEFT ABUTMENT</u></p> <p>This item shall consist of supplying, transporting, placing and compacting one or more layer of selected fill materials to be put on the left side slopes of the reservoir in order to stabilise the slopes.</p> <p>This material should be of continuous gradation, non-plastic, watered and compacted in layers less than 50cm thickness ($D_{max} \leq 100\text{mm}$) and placed in a maner allowing the installation of the waterproofing system on its surface, as specified in technical specification and/or as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure Continuous irrigation water supply from the existing source during the whole irrigation period, - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling, compacting in horizontal or sloped layers with selected excavated material and/or borrow material. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	47,000	m ³		
II-4	<p><u>POROUS CONCRETE OR CONCRETE CLASS D FOR FILLING THE VOIDS IN THE RESERVOIR BOTTOM AND ON SLOPES</u></p> <p>This item shall consist of executing concrete class D which is composed of 200 kg cement or porous concrete (as approved by the Engineer) to fill the voids and cavities discovered and cleared in the reservoir bottom and slopes and where needed and as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Furnishing, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Grouting or injecting of small voids and cacks - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Basic plain finish, tamped finish or wrought finish - Formwork to edges & sloping tops - Any width or height of form-work - Form-work main frames, plywood & timber - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work - All cutting, splayed edging or alike - Re-using form-work & or removing form-work from site. 				
	<p>This item shall be measured in cubic meter and shall be the net volume.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only..... USD</p>	3,000	m ³		
II-5	<p><u>CONCRETE CLASS D OR POROUS FOR STABILIZATION AND SMOOTHERING OF THE UPSTREAM DAM FACING</u></p> <p>This item shall consist of executing concrete class D which is composed of 200 kg cement or porous concrete (as approved by the Engineer) to fill the voids between the rocks of the Rip Rap dam upstream facing and where needed and as directed by the Engineer, in additional, to eliminate any protruding element susceptible to punch or injure the membrane.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Furnishing, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Spraying of concrete where necessary - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls - Basic plain finish, tamped finish or wrought finish - Formwork to edges & sloping tops - Any width or height of form-work - Removal of unstable rocks - Form-work main frames, plywood & timber - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	- All cutting, splayed edging or alike - Re-using form-work & or removing form-work from site.				
	This item shall be measured in cubic meter and shall be the net volume. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	8,000	m ³		
II-6	<u>SURFACE PREPARATION OF THE RESERVOIR SLOPES AND BERMS</u> This item shall consist of the surface preparation of the slopes and berms of the reservoir in order to allow the proper installation of the membrane complex. It shall include removing protruding zone or concreting or backfilling using non-plastic compacted material. The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and method statement - Resources (Equipment, Materials, Manpower etc.) - Removal of all loose, unstable & unsuitable material of whatever nature - Temporary disposition of water necessary for the work execution - Keeping surface free of water by any means - Retrieving excavated material by any means - Cart-away excavated material to dump area where permitted or on tips allocated by the contractor at his own responsibility - filling of voids and irregularities by selected fill and/or backfill and/or concrete in order to get a regular surface suitable for membrane complex installation - Cleaning, leveling and compacting, using heavy vibrating compactors, or any other suitable mean. - Supply, inject or fill in the voids with cement grout - All the necessary for the proper completion of works.				
	This item shall be measured in square meter and shall be the net area in accordance to the execution drawings as directed and approved by the Engineer. No allowance or measurement shall be made due to contractor negligence or error. Only..... USD	65,000	m ²		

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
II-7	<p><u>SURFACE PREPARATION OF THE BOTTOM OF THE RESERVOIR</u></p> <p>This item shall consist of the surface preparation of the bottom of the reservoir in order to allow the proper installation of the membrane complex.</p> <p>It shall include removing all blocs setting on the surface and backfilling with selected compacted material.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and method statement - Resources (Equipment, Materials, Manpower etc.) - Removal of all loose, unstable & unsuitable material of whatever nature - Temporary disposition of water necessary for the work execution - Keeping surface free of water by any means - Retrieving excavated material by any means - Cart-away excavated material to dump area where permitted or on tips allocated by the contractor at his own responsibility - filling of voids and irregularities by selected fill and/or backfill and/or concrete in order to get a regular surface suitable for membrane complex installation - Cleaning, leveling and compacting, using heavy vibrating compactors, or any other suitable mean. - Supply, inject or fill in the voids with cement grout - All the necessary for the proper completion of works. 				
	<p>This item shall be measured in square meter and shall be the net area in accordance to the execution drawings as directed and approved by the Engineer.</p> <p>No allowance or measurement shall be made due to contractor negligence or error.</p> <p>Only..... USD</p>	55,000	m ²		
II-8	<p><u>DRAINAGE SYSTEM FOR THE RESERVOIR SLOPES AND BERMS</u></p> <p>This item shall consist of supplying, transporting, storing & installing a drainage system underneath the membrane complex consisting of drainage trenches filled with draining material and perforated PVC pipes and geotextile. In addition to this mandatory system, and in case the Contractor found that a additional measures are necessary for the protection of the membrane complex, he can propose an additional drainage layer with geotextile or other type of efficient drainage system as approved by the Engineer the drainage system shown on the tender drawings is indicative and should be designed and checked by the Contractor for a full protection of the membrane complex.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, grading of bottom excavation, excavation of trenches if required, filling of trenches with drainage material installation of pipes,... - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling, compacting in horizontal or sloped layers or in trenches with selected drainage material. - Perforated PVC pipes - Geotextile Sheets where necessary - Connection with the bottom outlet structure. 				
	<p>This item shall be measured in square meter and shall be the net area in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	65,000	m ²		
II-9	<p><u>DRAINAGE SYSTEM FOR THE RESERVOIR BOTTOM</u></p> <p>This item shall consist of supplying, transporting, storing & installing a drainage system underneath the membrane complex consisting of draining gravel and transition layer (30 on thick) together with trenches system filled with draining material and perforated PVC pipe and geotextile. The tender drainage system shown on tender drawings is indicative and should be designed and checked by the Contractor for a full protection of the membrane complex.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, grading of bottom excavation, excavation of trenches if required, filling of trenches with drainage material installation of pipes, ... - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Filling, compacting in horizontal or slopped layers or trenches with selected drainage material. - Perforated PVC pipes - Geotextile Sheets where necessary - Connection with the bottom outlet structure. 				
	<p>This item shall be measured in square meter and shall be the net area in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	55,000	m ²		
II-10	<p><u>MEMBRANE COMPLEX FOR THE DAM UPSTREAM SLOPES</u></p> <p>This item shall consist of supplying, transporting, storing & installing a membrane complex composed of multiple layers (Lower protection, membrane and upper protection) providing the required watertightness and resistance to punching, to support conditions and to external conditions (weather, waves, UV, winds,...) with all necessary accessories, complete. In case, these protection are already incorporated in the membrane itself during production or if the membrane is proven to be able to withstand alone the support hard conditions and all the external harsh weather agents (winds, UV, temperature...) and waves, the lower and upper protection layers may be eliminated, subject to the approval of the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - horizontal and slopped installation and welding at overlaps by appropriate means -Turning into grooves and pointing - Working around flashing, openings & the like - Working into structures and the like - Cutting, laying, overlapping and fixing - Work laid to falls and cross falls - Forming grooves & sealing if applicable - Waterproofing around structures and the like as per manufacturers recommendation - Lining to sumps, outlets, etc. - tests at welded joints. 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Take all necessary measurement to prevent any distorsion, waves or uneven tension in the sheets. - Protection layers (to be proposed by Contractor and approval by the Engineer) - Complete fixation system of the waterproofing components on the slopes and on the concrete structures. The system shall be hooked and tied to concrete structures (channels, chutes, parapet wall,...) - Anchoring on peripheries and where needed 				
	<p>This item shall be measured in square meter of waterproofing complex, quantity of which shall be as indicated on drawings. No allowance or measurement shall be made for contractor negligence or error.</p> <p>Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate.</p> <p>Up-stands & rebates shall be measured by square meter and the same shall be applied.</p> <p>Only..... USD</p>	30,000	m ²		
II-11	<p><u>MEMBRANE COMPLEX FOR THE RESERVOIR BOTTOM AREA</u></p> <p>This item shall consist of supplying, transporting, storing & installing a membrane complex composed of multiple layers (lower protection, membrane and upper protection) providing the required watertightness and resistance to punching, to support conditions and all other agents including all necessary accessories complete.</p> <p>If these protection are already incorporated in the membrane itself during production or if the membrane is proven to be able to withstand alone the support hard conditions and all the external agents, the lower and upper protection layers may be eliminated, subject to the approval of the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - horizontal and slopped installation and welding at overlaps by appropriate means -Turning into grooves and pointing - Working around flashing, openings & the like - Working into structures and the like - Cutting, laying, overlapping and fixing - Work laid to falls and cross falls - Forming grooves & sealing if applicable 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Waterproofing around structures and the like as per manufacturers recommendation - Lining to sumps, outlets, etc. - tests at welded joints. - Take all necessary measurement to prevent any distorsion, waves or uneven tension in the sheets. - Protection layers to be proposed by Contractor and approved by the Engineer - Complete fixation system of the waterproofing components on the concrete structures. The system shall be hooked and tied to concrete structures (channels, chutes etc.) and connection to the existing membrane (if PVC membrane is to be kept) - Anchoring where needed 				
	<p>This item shall be measured in square meter of waterproofing membrane complex quantity of which shall be as indicated on drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate.</p> <p>Up-stands & rebates shall be measured by square meter and the same shall be applied.</p> <p>Only..... USD</p>	55,000	m ²		
II-12	<p><u>MEMBRANE COMPLEX FOR RESERVOIR SLOPES AND BERMS</u></p> <p>This item shall consist of supplying, transporting, storing & installing a membrane complex composed of multiple layers (Lower protection, membrane and upper protection) providing the required watertightness and resistance to punching, to support conditions and to external conditions (weather, waves, UV, winds,...) with all necessary accessories, complete. In case, these protection are already incorporated in the membrane itself during production or if the membrane is proven to be able to withstand alone the support hard conditions and all the external agents (winds, UV, temperature...) and waves, the lower and upper protection layers may be eliminated, subject to the approval of the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - horizontal and slopped installation and welding at overlaps by appropriate means -Turning into grooves and pointing 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Working around flashing, openings & the like - Working into structures and the like - Cutting, laying, overlapping and fixing - Work laid to falls and cross falls - Forming grooves & sealing if applicable - Waterproofing around structures and the like as per manufacturers recommendation - Lining to sumps, outlets, etc. - tests at welded joints. - Take all necessary measurement to prevent any distortion, waves or uneven tension in the sheets. - Protection layers (to be proposed by Contractor and approved by the Engineer) - Complete fixation system of the waterproofing components on the slopes and on the concrete structures. The system shall be hooked and tied to concrete structures (channels, chutes parapet wall,...) - Anchoring on peripheries and where needed 				
	<p>This item shall be measured in square meter of waterproofing complex, quantity of which shall be as indicated on drawings. No allowance or measurement shall be made for contractor negligence or error.</p> <p>Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate.</p> <p>Up-stands & rebates shall be measured by square meter and the same shall be applied.</p> <p>Only..... USD</p>	65,000	m ²		
II-13	<p><u>SELECTED FILL FOR THE PROTECTION OF THE MEMBRANE COMPLEX OF THE RESERVOIR BOTTOM</u></p> <p>This item shall consist of supplying, transporting, placing and compacting one or more layer of selected fill materials to be put on the bottom of the reservoir for the protection of the membrane. This material should be watered and compacted with a thickness of 50cm, to be proposed by the Contractor and to be approved by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. 				

BILL II- DAM AND RSERVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	- Filling, compacting in horizontal or sloped layers with selected excavated material and/or borrow material.				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	35,000	m ³		
II-14	<p><u>PHYSICAL PROTECTION OF THE MEMBRANE COMPLEX FOR THE RSERVOIR SLOPES AND / OR DAM</u></p> <p>This item shall consist of supplying, transporting, storing & installing a physical protection for the membrane complex against vandalism, UV, waves, weather, ... for some part of the reservoir slopes and dam face with all necessary accessories and works completed. This protection shall be proposed by the Contractor during the bid phase and subject to the approval of the Engineer. An anchored protection to the foundation (through the membrane will be advantageous).</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Horizontal and sloped installation and overlapping. - Tests - Complete fixation system of the components on the slopes and on the concrete structures. 				
	<p>This item shall be measured in square meter of protection quantity of which shall be as indicated on drawings or as instructed by the Engineer.</p> <p>No allowance or measurement shall be made for Contractor negligence or error.</p> <p>Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate.</p> <p>Only..... USD</p>	10,000	m ²		

BILL II- DAM AND RSEVOIR FULL LINING SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
II-15	<u>ADDITIONAL INTAKE WELDED STEEL PIPE</u> This item shall consist of supplying, transporting, storing, placing, welding, fixing & testing of the intake welded steel pipe and accessories, DN250mm schedule 40, cement lined internally & bituminous coated externally for protection against corrosion with all necessary fittings and accessories. The rate shall include, but not limited to: - Compliance to the method of measurement indicated here-below - Compliance with approved drawings & details - Application of relevant specification division - Submission of material original data sheet - Submission of detailed program of works, methodology and welding procedures - Sampling & testing of supplied materials as required in specification or requested by the Engineer - Resources (Equipment, materials, Manpower etc.) - Making hole in the reinforced concrete wall of the bottom outlet chamber, intake grill, external flange, gasket, epoxy, dowel bolts, connection to the exiting outlet pipe and all necessary works as shown on drawings - All necessary steel or DI accessories and fittings such as elbows, puddle flanged pieces, couplings, sleeves, strainers, dismantling joints, butterfly valves, air valves, flexible joints, expansion joints, connection pieces with the gate valves intake pipes etc. (Nominal Pressure 10 bars) - Installation of all above detailed elements, but not limited to them nor to the pipe itself. - The above shall be as indicated on drawing in the bottom outlet structure - All that is necessary for proper execution and completion of the works - Water pressure testing as specified in technical specification and as directed by the Engineer. - Welding tests as required and directed by the Engineer (scanning test, penetration test, gamma rays test etc.).				
	This item shall be as Lump Sum installed complete to the satisfaction of the Engineer No allowance shall be made for contractor miss-interpretation, miss-understanding, negligence & or error. Only..... USD	1	LS		

Total BILL II

Only.....
United States Dollars

BILL III - INFLOW CONTROL SYSTEM

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
III-1	<p>UNCLASSIFIED EXCAVATION</p> <p>This item shall consist of excavating and disposing materials of any kind & type encountered during work. This item shall pertain but not limited to structures, canals, pipelines, culverts, head-walls, basins, manholes, inlets, retaining walls, roads, underground walls, etc. where needed and instructed by the Engineer</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) such as dozers, track loaders, wagon drill, trucks, explosives, etc. - Blasting as specified in technical specification subject to the Engineer approval - Temporary disposition of water & electricity necessary for the work execution - Remove, seal, re-route existing utilities, if any, as required subject to Engineer consent - Excavation in any type of soil, to any depth, whatever found to be: Soft, Hard, Clay, Rock, Hard rock etc. - Keeping excavation free of water by any means - Any additional excavation to provide working space for structural works - Planking, strutting, shoring, sheet piling etc. necessary to support the vertical excavation edges - Retrieving excavated material by any means, depositing in temporary heaps, selecting and setting aside approved excavated material to be used in backfilling around annexed structures only and as directed by the Engineer, including multiple handling of material. The excavated material shall not be reused for filter, drain and dam body filling. - Cart-away surplus material to dump area where permitted or on tips allocated by the contractor at his own responsibility. <p>This item shall be measured in cubic meter and shall be the net volume in accordance to the execution drawing as directed and approved by the Engineer</p> <p>Whenever excavating deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for over-excavation due to contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	15,000	m ³		

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
III-2	<u>COMPACTED FILL & BACKFILL</u> This item shall consist of supplying, transporting, placing and compacting one or more layer of fill or backfill materials spread around structures, and where is needed, as specified in technical specification and/or as directed by the Engineer. The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure Continuous irrigation water supply from the existing source during the whole irrigation period, - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling, compacting in horizontal or sloped layers with selected excavated material and/or borrow material.				
	This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings. Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error Only..... USD	2,500	m ³		
III-3	<u>DRAINING FILL</u> This item shall consist of supplying, transporting, placing and compacting one or more layers of draining materials . The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Protection of nearby structure during execution - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling with selected draining material & compacting in horizontal layers not exceeding 40 cm in thickness - Compaction shall be forwarded with heavy equipment weighing 8 tons/lm of width as a minimum with sufficient subsequent number of passes to attain the required degree of compaction stated in the technical specifications. 				
	<p>This item shall be measured in cubic meter of draining fill compacted in layers and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only..... USD</p>	700	m ³		
III-4	<p><u>RIP RAP</u></p> <p>This item shall consist of supplying, transporting and placing one or more layers of Rip Rap materials (of any size)</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting, hauling, placing and leveling etc. - Consistent appearance of the paved area & layer thickness - Special grabbing crane provision for rock installation - All necessary for the proper execution of the works. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only..... USD</p>	2,200	m ³		
III-5	<p><u>AGGREGATE BASE COURSE AND SUB-BASE COURSE</u></p> <p>This item shall consist of supplying, transporting, placing and compacting one layers of class A aggregate base course and sub-base source material provided from quarries, crushed to the gradation defined in the technical specification .</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness, & typical cross sections) - Application of relevant specification division 				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Protection of nearby structure during execution - Surface preparation, Leveling, ramming, trimming, grading & compacting of sub-grade - Material procurement or excavation, loading and hauling - Material preparation, crushing, selecting, moisturizing, hauling, placing etc. - Filling with class A aggregate base course material & compacting in horizontal layers of 30 cm thickness - Compaction shall be forwarded with heavy equipment with sufficient subsequent number of passes to attain the required degree of Compaction stated in the technical specification - All necessary for the proper execution of the works. 				
	<p>This item shall be measured in cubic meter of aggregate base course materials compacted in 30 cm layer thickness and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	750	m ³		
III-6	<p>CONCRETE CLASS D</p> <p>This item shall consist of executing concrete class D which is composed of 200 kg cement underneath the structures and as grouting for rip-rap and where needed and as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Furnishing, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls 				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Basic plain finish, tamped finish or wrought finish - Formwork to edges & sloping tops - Any width or height of form-work - Form-work main frames, plywood & timber - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work - All cutting, splayed edging or alike - Re-using form-work & or removing form-work from site. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	1,500	m ³		
III-7	<p>CONCRETE CLASS A</p> <p>This item shall consist of executing concrete class A which is composed of 350 kg cement for foundations, beams, retaining walls, columns, slabs, canals, manholes, underground walls and any other reinforced concrete element.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Supplying, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls - Basic plain finish, tamped finish or wrought finish - Construction and contraction joints, water bars, dowels and caps - Working around pipes, reinforcements, cutting channels, chases, mortises, pockets and holes including grouting, filling and making good - Form-work main frames, plywood & timber - Form-work design & construction if any - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work - Overlaps, passing at angles & re-propping if approved - Supporting concrete of any thickness at any height to soffit 				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Any width or height of form-work - Any concrete section or profile, projection or recesses including sealing open ends - All cutting, splayed edging or alike - Forming grooves, chamfers, ribs, mortises, pockets, pipe holes, duct holes, cable holes & providing battens and boxing - Adaptation to accommodate projecting pipes, reinforcing bars and alike - Access openings and temporary openings - Mould release agents and surfaces curing - Re-using form-work & or removing form-work from site - All necessary additives request by the Engineer (protection of concrete in contact with water waterproofing, ...). 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>No deduction shall be made for openings less than 0.5 m².</p> <p>Only.....</p> <p>..... USD</p>	2,000	m ³		
III-8	<u>REINFORCING STEEL</u> <p>This item shall consist of supplying, transporting, storing and placing reinforcing steel for concrete structures.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed bar bending schedule - Design calculation of structure and revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Fixing bars in any position & in any member - Fixing bars horizontally, vertically and sloped - Work to any diameter, section & length - Forming straight, bent, & curved bars and links - Cutting, lapping & jointing including special joints if any - Hooks, tying wires, spacers, chairs and the like 				
	<p>This item shall be measured in kilogram of reinforcement as indicated on approved bar bending schedule.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Overlap shall be included with the quantity of reinforcements for it forms part of bar bending schedule.</p> <p>Waste shall be on contractor behalf.</p> <p>Only.....</p> <p>..... USD</p>	260,000	kg		

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
IV-9	<u>STRUCTURAL STEEL WORKS</u> This item shall consist of fabricating, supplying, transporting, storing & installing all kind of metal works for doors, windows, stairs, ladders, grills, covers, guardrails and screens with all necessary parts & accessories, complete. The rate shall include, but not limited to: <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division & standards - Compliance with the method of measurement indicated here-below - Submission of materials & accessories technical data sheets - Submission of application details & revision thereto if any subject to Engineer consent - Preparation of all submittals, design details, execution & workshop drawings subject to Engineer consent - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Supply & installation of all components, elements, fixing devices, supports, fittings, coverings and accessories - Fabrication, erection, including temporary support & bracing - Any number, section type, size or length of components & fittings -Fillet welding, bolts, nuts, washers, rivets, anchor bolts, fixing devices, caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, separators, diaphragms, packing and the like. - Application of BS5493:1977 division for iron and steel structure protective coating against corrosion for exterior exposed non polluted inland atmosphere. The period shall be 10 to 20 years exposure. 				
	This item shall be measured in kilogram of steel items installed weight of which shall be as indicated on approved shop drawings. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	10,000	kg		
III-10	<u>WATERSTOP JOINTS</u> This item shall consist of supplying, transporting, storing & installing waterstop with all necessary accessories complete. The rate shall include, but not limited to: <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) 				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Sampling & testing as required in specification or requested by Engineer - Waterstop application as per manufacturer recommendation, fastening, splicing, welding to special water-stop elements such as cross waterstop, Tee waterstop etc. - Waterstop support & protection against damage during progress of work - Filler application to joint. The joint filler shall be ≥ 2 cm in thickness, material subject to Engineer approval - Cleaning the joint by means of compressed air all along the joint length - Making sure that the filler board is at place - Backing cord application & Shatter to vertical edges - Priming - Sealant application as per manufacturer recommendation filling the joint from cord top on. 				
	<p>This item shall be measured in linear meter of Waterstop application quantity of which shall be as indicated on drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>This item shall be considered for vertical as well as horizontal joints.</p> <p>Only.....</p> <p>..... USD</p>	150	lm		
III-11	<p><u>BITUMINOUS COATING FOR BURIED WALLS</u></p> <p>This item shall consist of supplying, transporting, storing & installing 3 coats of bituminous material forming thus a damp-proofing layer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheets. - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Concrete surface preparation - Bitumen supply and application as per manufacturer recommendation. 				
	<p>This item shall be measured in square meter of bituminous coating application quantity of which shall be as indicated on drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>This item shall be considered for vertical as well as horizontal areas.</p> <p>Only.....</p> <p>..... USD</p>	1,500	m ²		

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
III-12	WIRE ENCLOSED RIPRAP (GABIONS) This work shall consist of supplying, transporting, storing and installing 50x50x100 or 100x100x100 cmxcmxcm wire enclosed riprap (gabions) as shown on drawings The rate shall include, but not limited to: - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here below - Submission of detailed program of works and methodology - Resources (Equipment, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement and not limited to wire baskets, ties, wires, connection hardware, anchors, binding wire, aggregate filling and any other element necessary for the completion of the works - Cage stitching, aggregate placing, lifting, handling, maneuver and installation.				
	This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	2,200	m ³		
III-13	NON WOVEN GEOTEXTILE SHEETS This item shall consist of supplying, transporting, storing & installing non woven geotextile sheets with minimum weight of 500g/m ² , subject to the approval of the Engineer. The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - horizontal and slopped installation and welding at overlaps by appropriate means -Turning into grooves and pointing - Working around flashing, openings & the like - Working into structures and the like - Cutting, laying, overlapping and fixing - Work laid to falls and cross falls - Forming grooves & sealing if applicable				

BILL III- INFLOW CONTROL SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	- Complete fixation system of the geotextile sheet on the slopes and on the concrete structures. The system shall be hooked and tied to concrete structures (channels, chutes, parapet wall,...) - Anchoring on peripheries and where needed				
	This item shall be measured in square meter of geotextile sheet, quantity of which shall be as indicated on drawings. No allowance or measurement shall be made for contractor negligence or error. Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate. Up-stands & rebates shall be measured by square meter and the same shall be applied. Only..... USD	6,700	m ²		

Total BILL III	
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Only.....
.....United States Dollars

BILL IV – DAYWORKS

BILL IV- DAYWORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
IV-1	<u>LABOUR</u> The Contract Rates for various classes of labor in the Dayworks Schedule shall cover all the Contractor's obligations whatsoever in providing and maintaining such labor at the place of work including wages, payment for conditions and for skill, bonus traveling and subsistence allowances and expenses, guaranteed time, holidays with pay, insurance of all kinds, pensions, site supervision, watching, administrative and welfare chores, the use and maintenance of staging, scaffolding, portable electric tools, non-mechanical plant and hand tools of every kind, overheads, profit and all incidental expenses. This item shall be measured by working day				
IV-1-1	Skilled craftsmen Only..... USD	400	day		
IV-1-2	Semi skilled craftsmen Only..... USD	400	day		
IV-1-3	Labourers Only..... USD	650	day		
IV-1-4	Bar benders Only..... USD	80	day		
IV-1-5	Concreters Only..... USD	80	day		
IV-1-6	Carpenters Only..... USD	80	day		
IV-1-7	Masons Only..... USD	80	day		
IV-1-8	Transport drivers Only..... USD	80	day		
IV-1-9	Fitter/mechanics Only..... USD	10	day		
IV-1-10	Gangers (in charge of labourers) Only..... USD	80	day		
IV-1-11	Formen Only..... USD	80	day		
IV-1-12	Watchmen Only..... USD	80	day		

BILL IV- DAYWORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
IV-1-13	Welders - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure Continuous irrigation water supply from the existing source during the whole irrigation period,	80	day		
IV-1-14	Plant operators Only..... USD	80	day		
IV-1-15	Drivers (heavy equipment, such as dozers, graders) Only..... USD	80	day		
IV-2	<u>EQUIPMENT</u> This item shall be measured by working day including all types of consumables maintenance and any other expenses				
IV-2-1	Compressor Only..... USD	55	day		
IV-2-2	Tilting drum concrete mixer up to 200 liters wet capacity Only..... USD	40	day		
IV-2-3	Lorry mounted concrete pump (including boom, piping and pipe cleaning equipment) up to 50 m3/hr capacity Only..... USD	40	day		
IV-2-4 IV-2-4-1	Concrete vibrator poker <u>Petrol driven</u> Only..... USD	40	day		
IV-2-4-2	<u>Diesel driven</u> Only..... USD	40	day		
IV-2-4-3	<u>Electric driven</u> Only..... USD	40	day		
IV-2-5 IV-2-5-1	Mobile rubber tired full circle slew crane, including all crane equipment <u>Up to 50 tonne capacity</u> Only..... USD	15	day		
IV-2-5-2	<u>Up to 25 tonne capacity</u> Only..... USD	55	day		
IV-2-6 IV-2-6-1	Dumper trucks <u>Up to 1000 Kg</u> Only..... USD	100	day		
IV-2-7 IV-2-7-1	Asphalt/coated macadam spreader <u>Up to 56 kw</u> Only..... USD	10	day		
IV-2-7-2	<u>Asphalt cutter</u> Only..... USD	10	day		

BILL IV- DAYWORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
IV-2-8 IV-2-8-1	Trucks <u>Ordinary up to 16.0 tons</u> Only..... USD	100	day		
IV-2-8-2	<u>Ordinary up to 8 tons</u> Only..... USD	100	day		
IV-2-9 IV-2-9-1	Roller <u>Steel 3-wheeled up to 10.5 tonnes</u> Only..... USD	10	day		
IV-2-9-2	<u>Rubber tired up to 1.0 tonne/wheel</u> Only..... USD	10	day		
IV-2-9-3	<u>Rubber tired up to 3.0 tonnes/wheel</u> Only..... USD	10	day		
IV-2-10 IV-2-10-1	Tractors (Crawler) with bull or angle dozer, maker's rated flywheel <u>Up to 100.0 kw</u> Only..... USD	100	day		
IV-2-11 IV-2-11-1	Motor grader, variable blade/flywheel <u>Up to 110 kw</u> Only..... USD	10	day		
IV-2-12 IV-2-12-1	Dozers <u>Dozer D8</u> Only..... USD	100	day		
IV-2-12-2	<u>Dozer D9</u> Only..... USD	100	day		
IV-2-13 IV-2-13-1	Mobile water tank <u>Up to 4450 liters</u> Only..... USD	100	day		
IV-2-14 IV-2-14-1	Excavators <u>Excavator (max. power 38 hp; max. digging depth 3.5 m)</u> Only..... USD	100	day		
IV-2-15 IV-2-15-1	Wheel loader <u>Wheel loader (max. power 90 hp; toothless shovel)</u> Only..... USD	100	day		
IV-2-16 IV-2-16-1	Backhoe loader <u>Backhoe loader (max. power 90 hp; toothless bucket)</u> Only..... USD	100	day		
IV-2-17 IV-2-17-1	Skid steer loader <u>Skid steer loader (similar to Bobcat), max. power 70 hp</u> Only..... USD	100	day		

BILL IV- DAYWORKS

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
IV-3	<u>PROVISIONAL AMOUNT FOR UNFORSEEN WORKS</u>				
IV-3-1	Include the provisional amount of USD Five Hundred Thousands for any additional unforeseen works related to the execution of the membrane complex system (Foundation Treatment, Filling Voids...), slope stability, power system for the outlet gallery, ventilation of the outlet gallery, etc.,... and any other necessary work, subject to the approval of the Engineer Only..... USD	-	P.S.	500,000.00	500,000.00
IV-3-2	<u>Add Percentage Addition</u> Percentage of provisional amount of materials Only..... USD	1	%		

Total BILL IV

Only.....
.....**United States Dollars**

COLLECTION SHEET - PART 1

COLLECTION SHEET - PART 1

DESCRIPTION OF WORKS		AMOUNT USD
PART 1 - COMPULSORY PART		
BILL I-	GENERAL WORKS	
BILL II-	DAM AND LAKE FULL LINING SYSTEM	
BILL III-	INFLOW CONTROL SYSTEM	
BILL IV-	DAYWORKS	
TOTAL - PART 1		

Only.....
United States Dollars

PART 2 - OPTIONAL PART

BILL V- DIVERSION SYSTEM

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
V-1	<u>GEOTECHNICAL INVESTIGATION -DIVERSION SYSTEM</u> <i>Note: The geotechnical investigation shall be performed in order to evaluate the bearing capacities/settlements, material characteristics and any potential geotechnical problems of the foundation soil for sites where structures will be executed and where requested by the Engineer.</i>				
V-1-1	<u>MOBILIZATION/DEMOLIBILIZATION</u> Including site setup and relocation of the drill rig (s).				
	Only..... USD	3	Unit		
V-1-2	<u>CONTINUOUS VERTICAL CORING IN OVERBURDEN AND ROCK</u> This item shall be in linear meter of borehole accepted by the Engineer, quantity of which shall be the distance between the natural ground level and the bottom of rock formation (end of borehole) as measured in situ and determined by the Engineer. This item shall include water for drilling, sampling (disturbed and/or undisturbed) and SPT / DCPT at 1.5m intervals.				
	Only..... USD	102	l.m.		
V-1-3	<u>LUGEON AND/OR BOREHOLE WATER PERMEABILITY TEST</u> This item shall be in unit of test (as directed by the Engineer), including water for testing and pre-saturation.				
	Only..... USD	34	Unit		
V-1-4	<u>STANDPIPE OPEN PIEZOMETER</u> This item shall be in linear meter of perforated UPVC pipe (2 inches in dia. and 3.7mm thick wrapped with Geotextile PP-150gr/m ²) installed as directed by the Engineer, including concrete heading, steel-pipe protection with lock, air-lifting and 3 nos. of piezometric survey.				
	Only..... USD	102	l.m.		
V-1-5	<u>STANDARD WOODEN CORE BOXES</u> This item shall be in unit of box with lock.				
	Only..... USD	21	Unit		
V-1-6	<u>TEST PIT</u> This item shall be in unit of test pit excavated (as directed by the Engineer) until reaching the rockhead or to a maximum depth of 2.5m, including sampling (disturbed and/or undisturbed) and infiltration test (if requested by the Engineer).				
	Only..... USD	3	Unit		

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
V-1-7	<u>LABORATORY TESTS ON SOIL AND ROCK SAMPLES - BOREHOLES</u> This item shall be in unit of set of tests for each borehole, necessary to conclude the soil bearing capacity/settlement in function of the depth in each borehole or to identify geotechnical problems, conducted as directed, & accepted by the Engineer, payable 60% upon test completion and the remaining at the submittal of the final revised report				
	Only..... USD	5	Unit		
V-1-8	<u>LABORATORY AND IN-SITU TESTS ON SOIL AND ROCK SAMPLES - TEST PITS</u> This item shall be in unit of set of tests for each test pit, necessary to identify geotechnical problems, conducted as directed, & accepted by the Engineer, payable 60% upon test completion and the remaining at the submittal of the final revised report				
	Only..... USD	11	Unit		
V-1-9	<u>FINAL REPORT</u> This item shall be paid by unit upon report submittal subject to Engineer consent approval & revision thereto if modification prevails.				
	Only..... USD	3	Unit		
V-2	<u>UNCLASSIFIED EXCAVATION</u> This item shall consist of excavating and disposing materials of any kind & type encountered during work. This item shall pertain but not limited to structures, canals, pipelines, culverts, head-walls, basins, manholes, inlets, retaining walls, roads, underground walls, etc. where needed and instructed by the Engineer The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) such as dozers, track loaders, wagon drill, trucks, explosives, etc. - Blasting as specified in technical specification subject to the Engineer approval - Temporary disposition of water & electricity necessary for the work execution - Remove, seal, re-route existing utilities, if any, as required subject to Engineer consent - Excavation in any type of soil, to any depth, whatever found to be: Soft, Hard, Clay, Rock, Hard rock etc. - Keeping excavation free of water by any means - Any additional excavation to provide working space for structural works - Planking, strutting, shoring, sheet piling etc. necessary to support the vertical excavation edges				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<p>- Retrieving excavated material by any means, depositing in temporary heaps, selecting and setting aside approved excavated material to be used in backfilling around annexed structures only and as directed by the Engineer, including multiple handling of material. The excavated material shall not be reused for filter, drain and dam body filling.</p> <p>- Cart-away surplus material to dump area where permitted or on tips allocated by the contractor at his own responsibility.</p>				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the execution drawing as directed and approved by the Engineer</p> <p>Whenever excavating deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for over-excavation due to contractor negligence or error.</p> <p>Only..... USD</p>	18,000	m ³		
V-3	<p>COMPACTED FILL & BACKFILL</p> <p>This item shall consist of supplying, transporting, placing and compacting one or more layer of fill or backfill materials spread around structures, and where is needed, as specified in technical specification and/or as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Construction of all necessary structures (cofferdams, pipes, canals, ...) or supplying the necessary equipment (pumps, machines, ...) to divert water from the work zone throughout the period of the project and insure Continuous irrigation water supply from the existing source during the whole irrigation period, - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling, compacting in horizontal or sloped layers with selected excavated material and/or borrow material. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>Whenever filling deals with structure, it shall be measured 50cm away of blinding edges as a maximum or as indicated on drawings or as executed with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error</p> <p>Only..... USD</p>	2,250	m ³		

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
V-4	<u>DRAINING FILL</u> This item shall consist of supplying, transporting, placing and compacting one or more layers of draining materials . The rate shall include, but not limited to: - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Protection of nearby structure during execution - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc. - Filling with selected draining material & compacting in horizontal layers not exceeding 40 cm in thickness - Compaction shall be forwarded with heavy equipment weighing 8 tons/lm of width as a minimum with sufficient subsequent number of passes to attain the required degree of compaction stated in the technical specifications.				
	This item shall be measured in cubic meter of draining fill compacted in layers and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	200	m ³		
V-5	<u>COMPACTED IMPREVIOUS BACKFILL</u> This item shall consist of supplying, transporting, placing and compacting one or more layers compacted imprevious backfill. The rate shall include, but not limited to: - Minimum clay content 13% - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Protection of nearby structure during execution - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting or mixing, moisturizing, hauling, placing etc.				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	- Filling with selected material & compacting in horizontal layers not exceeding 30 cm in thickness - Compaction shall be forwarded with heavy equipment weighing 8 tons/lm of width as a minimum with sufficient subsequent number of passes to attain the required degree of compaction stated in the technical specifications.				
	This item shall be measured in cubic meter of filter fill compacted in layers and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	8,000	m ³		
V-6	<u>RIP RAP</u> This item shall consist of supplying, transporting and placing one or more layers of Rip Rap materials (of any size) The rate shall include, but not limited to: - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Surface preparation, Leveling, ramming, trimming, and grading of bottom excavation - Material procurement or excavation, loading and hauling - Material preparation, selecting, hauling, placing and leveling etc. - Consistent appearance of the paved area & layer thickness - Special grabbing crane provision for rock installation - All necessary for the proper execution of the works.				
	This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller. No allowance or measurement shall be made for contractor negligence or error. Only..... USD	2,200	m ³		
V-7	<u>AGGREGATE BASE COURSE AND SUB-BASE COURSE</u> This item shall consist of supplying, transporting, placing and compacting one layers of class A aggregate base course and sub-base source material provided from quarries, crushed to the gradation defined in the technical specification . The rate shall include, but not limited to: - Compliance with approved drawings (lines, grades, thickness, & typical cross sections) - Application of relevant specification division				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Protection of nearby structure during execution - Surface preparation, Leveling, ramming, trimming, grading & compacting of sub-grade - Material procurement or excavation, loading and hauling - Material preparation, crushing, selecting, moisturizing, hauling, placing etc. - Filling with class A aggregate base course material & compacting in horizontal layers of 30 cm thickness - Compaction shall be forwarded with heavy equipment with sufficient subsequent number of passes to attain the required degree of Compaction stated in the technical specification - All necessary for the proper execution of the works. 				
	<p>This item shall be measured in cubic meter of aggregate base course materials compacted in 30 cm layer thickness and shall be the net volume in accordance to the drawings or as executed in situ with approval whichever is smaller.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	1,500	m ³		
V-8	<p><u>CONCRETE CLASS D</u></p> <p>This item shall consist of executing concrete class D which is composed of 200 kg cement underneath the structures and as grouting for rip-rap and where needed and as directed by the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Furnishing, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Basic plain finish, tamped finish or wrought finish - Formwork to edges & sloping tops - Any width or height of form-work - Form-work main frames, plywood & timber - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work - All cutting, splayed edging or alike - Re-using form-work & or removing form-work from site. 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only.....</p> <p>..... USD</p>	500	m ³		
V-9	<p>CONCRETE CLASS A</p> <p>This item shall consist of executing concrete class A which is composed of 350 kg cement for foundations, beams, retaining walls, columns, slabs, canals, manholes, underground walls and any other reinforced concrete element.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings (lines, grades, thickness & sections) - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed program of works and methodology - Specifying design mix to be followed subject to Engineer approval - Design calculation of structure and revision thereto if any - Supplying, transporting and storing of the concrete ingredients. - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Mixing, Pouring, transporting, placing, vibrating & curing and depicting areas of pouring against earth or un-blinded hardcore if any - Horizontal, sloped, vertical and curved work - Placing or finishing to falls and cross falls - Basic plain finish, tamped finish or wrought finish - Construction and contraction joints, water bars, dowels and caps - Working around pipes, reinforcements, cutting channels, chases, mortises, pockets and holes including grouting, filling and making good - Form-work main frames, plywood & timber - Form-work design & construction if any - Supports, battens, struts, bracing, wedging & fixing, easing, striking and removing of form-work - Overlaps, passing at angles & re-propping if approved - Supporting concrete of any thickness at any height to soffit 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Any width or height of form-work - Any concrete section or profile, projection or recesses including sealing open ends - All cutting, splayed edging or alike - Forming grooves, chamfers, ribs, mortises, pockets, pipe holes, duct holes, cable holes & providing battens and boxing - Adaptation to accommodate projecting pipes, reinforcing bars and alike - Access openings and temporary openings - Mould release agents and surfaces curing - Re-using form-work & or removing form-work from site - All necessary additives request by the Engineer (protection of concrete in contact with water waterproofing, ...). 				
	<p>This item shall be measured in cubic meter and shall be the net volume in accordance to the drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>No deduction shall be made for openings less than 0.5 m².</p> <p>Only.....</p> <p>..... USD</p>	2,250	m ³		
V-10	<p><u>STRUCTURAL STEEL WORKS</u></p> <p>This item shall consist of fabricating, supplying, transporting, storing & installing all kind of metal works for stairs, ladders, grills, covers, guardrails sluice gates and screens with all necessary parts & accessories, complete.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division & standards - Compliance with the method of measurement indicated here-below - Submission of materials & accessories technical data sheets - Submission of application details & revision thereto if any subject to Engineer consent - Preparation of all submittals, design details, execution & workshop drawings subject to Engineer consent - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer - Supply & installation of all components, elements, fixing devices, supports, fittings, coverings and accessories - Fabrication, erection, including temporary support & bracing - Any number, section type, size or length of components & fittings - Fillet welding, bolts, nuts, washers, rivets, anchor bolts, fixing devices, caps, bases, haunches, gussets, end plates, splice plates, cleats, brackets, stiffeners, separators, diaphragms, packing and the like. - Application of BS5493:1977 division for iron and steel structure protective coating against corrosion for exterior exposed non polluted inland atmosphere. The period shall be 10 to 20 years exposure. 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<p>This item shall be measured in kilogram of steel items installed weight of which shall be as indicated on approved shop drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Only..... USD</p>	3,000	kg		
V-11	<p><u>REINFORCING STEEL</u></p> <p>This item shall consist of supplying, transporting, storing and placing reinforcing steel for concrete structures.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of detailed bar bending schedule - Design calculation of structure and revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Fixing bars in any position & in any member - Fixing bars horizontally, vertically and sloped - Work to any diameter, section & length - Forming straight, bent, & curved bars and links - Cutting, lapping & jointing including special joints if any - Hooks, tying wires, spacers, chairs and the like 				
	<p>This item shall be measured in kilogram of reinforcement as indicated on approved bar bending schedule.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>Overlap shall be included with the quantity of reinforcements for it forms part of bar bending schedule.</p> <p>Waste shall be on contractor behalf.</p> <p>Only..... USD</p>	293,000	kg		
V-12	<p><u>BOTTOM OUTLET WELDED STEEL PIPES (DN 2000)</u></p> <p>This item shall consist of supplying, transporting, storing, placing, welding, fixing & testing of the washout welded steel pipe DN 2000, schedule 40, cement lined internally & bituminous coated externally for protection against corrosion with all necessary fittings and accessories.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance to the method of measurement indicated here-below - Compliance with approved drawings & details - Application of relevant specification division - Submission of material original data sheet - Submission of detailed program of works, methodology and welding procedures - Sampling & testing of supplied materials as required in specification or requested by the Engineer 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<ul style="list-style-type: none"> - Resources (Equipment, materials, Manpower etc.) - All necessary steel or DI accessories and fittings such as elbows, puddle flanged pieces, couplings, sleeves strainers, dismantling joints, butterfly valves, gate valves, flexible joints, expansion joints, connection pieces etc. (Nominal Pressure 10 bars) - Installation of all above detailed elements, but not limited to them nor to the pipe itself. - The above shall be as indicated on drawing in the upstream intake and washout structure, in the gallery and in the downstream control structure - All that is necessary for proper execution and completion of the works - Water pressure testing as specified in technical specification and as directed by the Engineer. - Welding tests as required and directed by the Engineer (scanning test, penetration test, gamma rays test etc.). 				
	<p>This item shall be in linear meter of DN 2000 steel pipe installed complete to the satisfaction of the Engineer.</p> <p>No allowance shall be made for contractor miss-interpretation, miss-understanding, negligence & or error.</p> <p>Only..... USD</p>	100	lm		
V-13	<p><u>WATERSTOP JOINTS</u></p> <p>This item shall consist of supplying, transporting, storing & installing waterstop with all necessary accessories complete. The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Waterstop application as per manufacturer recommendation, fastening, splicing, welding to special water-stop elements such as cross waterstop, Tee waterstop etc. - Waterstop support & protection against damage during progress of work - Filler application to joint. The joint filler shall be ≥ 2 cm in thickness, material subject to Engineer approval - Cleaning the joint by means of compressed air all along the joint length - Making sure that the filler board is at place - Backing cord application & Shatter to vertical edges - Priming - Sealant application as per manufacturer recommendation filling the joint from cord top on. 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	<p>This item shall be measured in linear meter of Waterstop application quantity of which shall be as indicated on drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>This item shall be considered for vertical as well as horizontal joints.</p> <p>Only..... USD</p>	250	lm		
V-14	<p><u>BITUMINOUS COATING FOR BURIED WALLS</u></p> <p>This item shall consist of supplying, transporting, storing & installing 3 coats of bituminous material forming thus a damp-proofing layer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheets. - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by Engineer - Concrete surface preparation - Bitumen supply and application as per manufacturer recommendation. 				
	<p>This item shall be measured in square meter of bituminous coating application quantity of which shall be as indicated on drawings.</p> <p>No allowance or measurement shall be made for contractor negligence or error.</p> <p>This item shall be considered for vertical as well as horizontal areas.</p> <p>Only..... USD</p>	3,000	m ²		
V-15	<p><u>NON WOVEN GEOTEXTILE SHEETS</u></p> <p>This item shall consist of supplying, transporting, storing & installing non woven geotextile sheets with minimum weight of 500g/m2, subject to the approval of the Engineer.</p> <p>The rate shall include, but not limited to:</p> <ul style="list-style-type: none"> - Compliance with approved drawings - Application of relevant specification division - Compliance with the method of measurement indicated here-below - Submission of original technical data sheet - Submission of application details & revision thereto if any - Resources (Equipment, Materials, Manpower etc.) - Sampling & testing as required in specification or requested by the Engineer 				

BILL V- DIVERSION SYSTEM

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE US\$	AMOUNT US\$
	- horizontal and slopped installation and welding at overlaps by appropriate means -Turning into grooves and pointing - Working around flashing, openings & the like - Working into structures and the like - Cutting, laying, overlapping and fixing - Work laid to falls and cross falls - Forming grooves & sealing if applicable - Complete fixation system of the geotextile sheet on the slopes and on the concrete structures. The system shall be hooked and tied to concrete structures (channels, chutes, parapet wall,...) - Anchoring on peripheries and where needed				
	This item shall be measured in square meter of geotextile sheet, quantity of which shall be as indicated on drawings. No allowance or measurement shall be made for contractor negligence or error. Overlap shall form part of the square meter paid & no allowance shall be made for overlapping and waste which are to be taken into consideration in contractors rate. Up-stands & rebates shall be measured by square meter and the same shall be applied. Only..... USD	8,000	m ²		

Total BILL V

Only.....
.....United States Dollars

COLLECTION SHEET - PART 2

COLLECTION SHEET - PART 2

DESCRIPTION OF WORKS		AMOUNT USD
PART 2 - OPTIONAL PART		
BILL V-	DIVERSION SYSTEM	
TOTAL - PART 2		

Only.....
United States Dollars

COLLECTION SHEET - PART 1 + 2

COLLECTION SHEET - PART 1 + 2

DESCRIPTION OF WORKS		AMOUNT USD
FOREIGN FINANCING		
PART 1 - COMPULSORY PART		
BILL I-	GENERAL WORKS	
BILL II-	DAM AND LAKE FULL LINING SYSTEM	
BILL III-	INFLOW CONTROL SYSTEM	
BILL IV-	DAYWORKS	
PART 2 - OPTIONAL PART		
BILL V-	DIVERSION SYSTEM	
	DISCOUNT	
A	TOTAL BILL (I+II+III+IV+V) AFTER DISCOUNT (VAT Not Applicable); (Foreign Financing)	
LOCAL FINANCING		
L	Local Taxes excluding VAT; (Local Financing)	350,000.00
L1	Income Tax Resident Contractor/Company: Max. 2.25% of A	
L2	Stamp Duties Resident Contractor/Company: (0.4% + 0.4%) = 0.8% of A	
L	TOTAL LOCAL TAXES: TOTAL OF (L1 + L2) excluding VAT; (Local Financing)	350,000.00
B	VAT on (L) = (L) x 11%; (Local Financing)	38,500.00
L+B	TOTAL LOCAL TAXES & DUTIES: TOTAL OF (L+B) including VAT; (Local Financing)	388,500.00
GRAND TOTAL (Foreign & Local Financing)		
A+L+B	GRAND TOTAL (Foreign & Local Financing) including VAT on Local Financing	

Only.....
.....United States Dollars