

**ROYAL IRRIGATION DEPARTMENT  
MINISTRY OF AGRICULTURE AND COOPERATIVES  
KINGDOM OF THAILAND**

**THE BANG PAKONG DIVERSION DAM PROJECT**

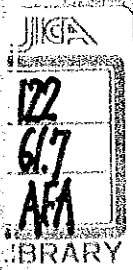
**BIDDING DOCUMENTS**

**VOLUME I : INSTRUCTIONS TO BIDDERS**

**NOVEMBER 1993**

**Prepared by :**

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
SANYU CONSULTANTS INC.**



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## **A. INVITATION TO BID**





**A. INVITATION TO BID NO.**

**A-1 Invitation**

The Royal Irrigation Department, Ministry of Agriculture and Cooperatives (hereinafter called "the Department") invites sealed written Bid No. \_\_\_ for the Bang Pakong Diversion Dam Project from those qualified bidders who have passed the Pre-qualification Application announced on \_\_\_\_\_.

The Project is the construction of the Bang Pakong Diversion Dam, and includes the following facilities:

1. Bang Pakong Diversion Dam & Diversion Canal
2. Closure Dam
3. Road & Road Bridge
4. Building
5. Pumping Station
6. Control System & Electrical Facilities

**A-2 Availability of Bid Documents**

- (1) The Bid Documents are available for examination by qualified bidders and may be obtained on written request, accompanied by cash or cashier's cheque or a bank certified cheque or a bank draft or money order payable to the Department, in the amount equivalent to \_\_\_\_\_ Baht per \_\_\_ set, non-refundable, at the following address.

Supply Division  
Royal Irrigation Department  
Samsen Road, Bangkok 10300  
THAILAND

- (2) Information to qualified bidders related to the Project is also available for examination on \_\_\_\_\_ at the same place.



## **B. INSTRUCTIONS TO BIDDERS**



## **B. INSTRUCTIONS TO BIDDERS**

### **B-1 Bidding Documents**

The Bidding Documents consist of the followings:

#### **VOLUME I : INSTRUCTIONS TO BIDDERS**

- A - Invitation to Bid
- B - Instructions to Bidders
- C - Supplementary Instructions to Bidders
- D - Form of Bid
- E - Annexes to Form of Bid
- F - Form of Bid Security

#### **VOLUME II : CONDITIONS OF CONTRACT**

- G - Form of Contract
- H - Conditions of Contract
- I - Supplementary Conditions of Contract
- J - Form of Performance Security
- K - Form of Advance Payment Security
- L - Form of Retention Money Security

#### **VOLUME III : SPECIFICATIONS**

- Part - 1 Main Works
- Part - 2 Building Works

#### **VOLUME IV : CONTRACT DRAWINGS**

- Part - 1 Main Works
- Part - 2 Building Works

#### **VOLUME V : BILL OF QUANTITIES**

- Part - 1 Main Works
- Part - 2 Building Works

## **B-2 Intent of Bid Documents**

The bidder shall submit his bid on the understanding that the Bidding Documents are intended to cover all works within the scope of the Contract and that, unless expressly excluded in the Bidding Documents, any and all labor and materials not indicated therein, but which may be necessary to complete any part of the Works in a proper and workmanlike manner, are to be considered as included and are to be furnished by the Contractor.

## **B-3 Qualification of Bidder**

This bidding is limited to all registered partnerships, limited companies and other juristic persons either individually or in joint-venture, who have been pre-qualified by the Department. If the conditions arise between the time a bidder is pre-qualified to bid and the bid opening date which could substantially change the performance of the bidder, the Department reserves the right to reject the proposal from the bidder, even though he was initially pre-qualified. The bidder shall bid for the entire scope of the work that he has been pre-qualified for.

The bidder must certify that he is without a special privilege or immunity with which to refuse being taken to court, or if he has such privilege or immunity, certify that such privilege or immunity has been waived.

## **B-4 Submission of Bid**

The bid shall be enclosed in sealed covers marked "BID NO. \_\_\_ FOR THE BANG PAKONG DIVERSION DAM PROJECT".

Original and copies shall be addressed to :

The Bid Accepting Committee  
Bid Office  
Royal Irrigation Department  
Samsen Road, Bangkok 10300,  
THAILAND

Invitation to Bid No. \_\_\_\_\_

The Bang Pakong Diversion Dam Project

(Not to be opened before \_\_\_\_\_) and be delivered by hand before \_\_\_\_\_  
\_\_\_\_\_ Bangkok time on the \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_. The bidders have the option to submit their bids by registered mail, but the Department shall not assume any responsibility for the delay in delivery. Bids received by the Department in due time shall not be modified or withdrawn. Bids received after the bid closing time shall be returned unopened to the bidders.

The bid, if hand-delivered, shall be submitted to the Bid Accepting Committee at the Bid Office, Royal Irrigation Department, Samsen Road, Bangkok on or before the bid closing time as specified.

The Department will issue the receipt, and the date and time of such receipt shall be regarded as the official time of receipt of the bid. In case of submission by registered mail, the date and time received from the postal service by the Department will be registered on the envelope and be regarded as the official time of receipt.

Withdrawal or modification of the bid after the receipt by the Department shall not be permitted.

#### **B-5 Opening of Bids**

The bids shall be publicly opened and the bid prices will be read aloud in the presence of the bidders or their representatives at \_\_\_\_\_ on \_\_\_\_\_ at the following address:

The Bid Office  
Royal Irrigation Department  
Samsen Road, Bangkok 10300  
THAILAND

**B-6 Documents to be included in Bid**

Each bid shall consist of the following documents, one original and two copies with the general heading "Bid for The Bang Pakong Diversion Dam Project".

One original consisting of:

- a) Volume I : INSTRUCTIONS TO BIDDERS
- b) Volume II : CONDITIONS OF CONTRACT
- c) Volume III : SPECIFICATIONS
- d) Volume IV : CONTRACT DRAWINGS
- e) Volume V : PRICED BILL OF QUANTITIES
  - Any addenda in accordance with Clause B-20 hereof
  - Form of Bid
  - Bid Security
  - Additional information requested hereunder as well as any technical documentation which the bidder considers suitable to present.

Two copies consisting of:

- a) Volume I : INSTRUCTIONS TO BIDDERS
- b) Volume V : PRICED BILL OF QUANTITIES
  - Additional information requested hereunder as well as any technical documentation which the bidder considers suitable to present.



## **B-7 Supplementary Data to Accompany Bid**

The bidder shall submit the following supplementary data with his bid:

- a) Statement of estimated monthly disbursement requirements for the period of construction. (D. Annex -N)
- b) An organization chart together with data sheets indicating complete qualification, experience, nationality and proficiency in the English language of the supervisory personnel the bidder proposes to employ in Thailand for the project. (D. Annexes - F and G)

Data charts showing the scheduled period of employment and a statement of the availability of the proposed employees for the project. (D. Annex - M)

- c) A construction schedule which will show in detail the proposed construction sequence of each feature from the beginning to the completion of the work, and a schedule of different items of major construction plant and equipment. The schedules shall include construction plant, equipment and manpower mobilization period. The schedules shall be in the form of a bar chart with months shown as ordinates, and each feature on a separate horizontal line. (D. Annex-H)
- d) A list containing a full description of major equipment to be used in carrying out the work, including number of each kind, model and type. The capacity of the equipment shall be suitable to meet the requirements of the Specifications. The list of major equipment shall set forth separately those owned by the bidder and those which the bidder intends to purchase or acquire from other sources and the sources thereof. The bidder shall indicate which equipment is in used condition, and shall include for each used item information on its age, prior use and present condition. (D. Annex-J)
- e) A statement describing the construction methods. (D. Annex-I)
- f) The bidder shall indicate if he intends to subcontract any of his work, and if so, for which of items, as detailed in D. Annex-L. He shall list the names and addresses of his proposed subcontractors and the work to be performed and/or the temporary facilities to be provided by them, with full description, availability, location and condition of each major piece of equipment. The proposed subcontractor's

qualifications and previous experiences in similar types of work shall also be listed. This prescription shall be applied to the works stipulated in Clause C-1 of Supplementary Instructions to Bidders.

- g) Other data listed in Clause 10 of the Form of Bid.

#### **B-8 Pricing Requirements**

- a) The Bill of Quantities has an entry for each item on which payment will be made and no other allowances of any kind will be made unless specifically provided for in the Bidding Documents. In the appropriate spaces provided for in the Bill of Quantities, for each bid item, the bidder shall specify unit price and amount, or lump sum price for the work and/or services included under the item. If the unit price of an item is not filled in, the cost of the said item shall be deemed to be included in the unit prices of the other items.

In case of discrepancy between the "unit price" and the corresponding "amount" entered in any item in the Bill of Quantities and between the "number" and "word", the "unit price" and "word" shall govern respectively.

The quantities appearing in the bid are only approximate and are prepared for the purpose of comparison of bids. Payments to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the Contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided for in the Conditions of Contract without invalidating the bidder's unit price.

- b) The bidder shall state his total bid price in Thai Baht, and the bid evaluation will be done thereon.
- c) The Contract Price will be paid in the currency of Thai Baht.
- d) The Contract Price shall be subject to adjustment due to variations in quantity (H-28, Conditions of Contract) and escalation (I-3, Supplementary Conditions of Contract).

#### **B-9 Visiting the Project Area**

For the convenience of bidders, an official or representative of the Department will conduct a job-site orientation visit during \_\_\_\_\_. It is strongly recommended that bidders participate in this visit. Bidders who wish to avail themselves of this opportunity are requested to give the names of their representatives to the \_\_\_\_\_ in writing or by cable or telex at least \_\_\_\_\_ days before the said date at the latest.

#### **B-10 Bidder's Understanding**

The bidder shall satisfy himself, by careful inspection, as to the nature and location of the Works, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the type of equipment and facilities needed for the execution of the Works, general and local conditions, the equipment to be furnished and installed, and all other matters which will in any way affect the work under the Contract. No verbal conversation with any officer, agent, or employee of the Department shall be deemed to affect or modify any of the terms or obligations of the Bidding Documents.

#### **B-11 Use of Local Materials and Labor**

In preparing the bid, the bidder, to the extent possible, should make use of material and labor resources locally available in Thailand, provided that these resources meet the requirement.

## **B-12 Preparation of Bid**

- a) The bidder shall initial and affix seal on each page of the following original documents and copies as acceptance of the same:
- Volume I : INSTRUCTIONS TO BIDDERS
  - Volume II : CONDITIONS OF CONTRACT
  - Volume III : SPECIFICATIONS
  - Volume IV : CONTRACT DRAWINGS
  - Volume V : PRICED BILL OF QUANTITIES
  - Form of Bid
  - Table of documents attached to the Bid
- b) The bid must be prepared and submitted in the form specified in the Bidding Documents (Form of Bid) without any omissions. Any bid which is incomplete or does not include the whole of the Works covered by the Specifications will not be considered. Full name and title of the representative shall be furnished where space for the representative's signature is provided in the Form of Bid and Bill of Quantities. Other pages shall be initialed and affixed with seal by the bidder.
- c) The Form of Bid shall give full business address of the bidder and must be signed by the authorized representative for whose favour power of attorney must be furnished. The Form of Bid must contain the total bid price, which was obtained from the Bill of Quantities. The Form of Bid shall be completed in ink; and no corrections or over-writing shall be made to the wording thereof. Any correction shall be made clearly and initialed by the authorized representative signing the bid.
- d) The Bill of Quantities shall be filled out in accordance with Clause B-8 herein. The quantities shown in the Bill of Quantities are the estimated quantities and will be used for the purpose of evaluation of the bids. Payments will be made for the quantities of work actually carried out.

## **B-13 Signing of Bid**

The bid by registered partnership, limited company or other juristic person must be signed with the legal name of such juristic person by the authorized person, followed by

the signature and designation of the person signing and include in the bid a certified document giving proof of his authority to sign the bid.

The bid by a group of two or more juristic persons forming a joint-venture or a consortium must be signed by each juristic person with satisfactory proof furnished with the bid that one juristic person is authorized to act for all. In any case, they shall be jointly and severally responsible for all obligations of all the members of the joint-venture or the consortium.

#### **B-14 Bid Security**

The bid shall be accompanied by a Bid Security in the form of cash, cashier's cheque or bank guarantee issued by a local bank or a foreign bank which has been accepted by the Department or Thai government bond or a bank guarantee issued by a finance company authorized by the Bank of Thailand to conduct finance and suretyship business for the amount of (        ) Baht and valid for \_\_\_\_\_ (        ) days from the bid opening date. The name of such finance company must be listed and circulated among government agencies. Any bid not accompanied by an acceptable Bid Security will be rejected by the Department as non-responsive. Except the Bid Security of the three evaluated lowest bidders, the Bid Security of unsuccessful bidders shall be returned within Fifteen (15) days from the completion date of evaluating and ranking the lowest evaluated bid. The Bid Security of the three evaluated lowest bidders shall be returned upon the execution of the Contract and the receipt by the Department of the Performance Security in accordance with Clause H-2 of the Conditions of Contract.

If the successful bidder withdraws his bid after delivery or refuses or neglects to sign the Contract according to the terms and conditions provided for in the Bid Documents or fails to furnish the required Performance Security within the time specified by the Department, his Bid Security shall be forfeited and the Department also reserves the right to add such successful bidder to the list of default parties.

Specimen form of bank guarantee is given in "F. Form of Bid Security".

## **B-15 Evaluation and Comparison of Bids**

- a) The Department reserves the right to accept or reject any or all bids and is not bound to accept the lowest bid. The Department will not be liable for any claim regarding the procedure of the evaluation of the bids and shall not be bound to give any reasons for his decision to any bidder.
- b) The bid will be checked for accuracy in the numerical calculations. Any bid with arithmetical mistakes will be corrected on the basis of the actual quantities of work given in the Bill of Quantities and the unit prices quoted by the bidder. Except in the case of lump sum items, if a unit price is not stated in the Bill of Quantities for the item but the total price of the item is given, the unit price shall be determined by dividing the bid amount of the item by the quantity stated in the Bill of Quantities. Where only a unit price is stated in the Bill Quantities, the bid amount for the item shall be determined by multiplying the unit price by the estimated quantity.
- c) In the case of a bid where the unit prices appears disproportionate or unrealistic in relation to others, such bid will be considered as unbalanced and in the event the bidder is unable to provide satisfactory explanation therefor, the Department reserves the right to disqualify such bid.
- d) The Department reserves the right to evaluate reservations in the bid. Bids containing major deviations or reservations will be rejected.
- e) Bids will be evaluated without taking into consideration the price adjustment provisions of Clause B-8, hereabove, if any.

## **B-16 Award of Contract**

After evaluation of the bids, the Department will issue a Notice of Award in favor of the successful bidder.

After the receipt of the Notice of Award, the successful bidder will be required to furnish a Performance Security as specified in the Conditions of Contract and sign the Contract in the form attached within the time specified in the said notice. The

Department reserves the right to cancel the Notice of Award at any time before signing the Contract without any liability to the successful bidder.

#### **B-17 Technicians Requirements**

When the Department awards the contract to any bidder in accordance with the Invitation to Bid, the bidder agrees that, in the performance of the Works, he shall provide and employ technicians who have passed the technical standard test from governmental test institution or have obtained a Professional Certificate or a High professional Certificate or a Technical Training Certificate or equivalents from the institution approved by the Office of the Civil Service commission for entering the government service, for not less than Ten (10) percent of each technical branch. However, there must be at least one technician in each of the following branches:

- (1) Brick Layer
- (2) Carpenter
- (3) Construction Technician
- (4) Draftsman
- (5) Electrician
- (6) Mechanic
- (7) Plasterer
- (8) Reinforcing Journeyman
- (9) Welder

#### **B-18 Correspondence**

All correspondence in connection with the bid, the Contract and all matters accompanying the bid shall be in English and all measurement and quantities are to be expressed in units of the metric system.

#### **B-19 Interpretation of Bid Documents**

If any bidder is uncertain as to the true meaning of any clause of the Bid Documents, or should any bidder, in his opinion, find discrepancies in or omissions from the Bid Documents, he shall at once make a request for clarifications to the Department. No such request made within Thirty (30) days before the bid opening date will be accepted. Preferably, such request shall be forwarded to the Department so as to arrive before the

pre-bid conference. All clarification will be made only by official Circular Letter issued by the Department.

Each Circular Letter will be distributed to all those who have been issued the Bid Documents and the receipt of each Circular Letter shall be acknowledged by signing and returning upon submission of the bid. All Circular Letters issued will become part of the Bid Documents.

#### **B-20 Addenda**

Addenda to the Bid Documents may be issued up to Fourteen (14) days before the bid opening date in order to clarify provisions herein or to notify modifications. Each addendum to be issued will be distributed to all those who have been issued the Bid Documents and they shall acknowledge receipt of each addendum by signing and returning upon submission of the bid. All addenda issued will become part of the Bid Documents.

#### **B-21 Bid Expenses**

The preparation and presentation of the bid shall be totally at the bidder's expense.

#### **B-22 Validity of Bid**

The bid shall be valid for a period of \_\_\_\_\_ ( ) days from the bid opening date specified in Clause B-5 hereof. The bidder shall not be allowed to withdraw his Bid before the expiration of the bid validity.

#### **B-23 Performance Security**

The Performance Security shall be required in the amount equal to Five(5) percent of the Contract Price according to Clause H-2 of the Conditions of Contract. The Performance Security may be furnished in any of the following forms:



- a) Cash
- b) Cashier's cheque
- c) Bank Guarantee issued by a local bank in the form attached
- d) Thai Government Bonds

**B-24 Pre-bid Conference**

The Department will convene a pre-bid conference at \_\_\_\_\_, Bangkok Time  
on \_\_\_\_\_ at the following office:

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The meeting will be held for the purpose of clarifying any elements of the proposed Works as well as answering all written questions received from the qualified bidders by the time of the pre-bid conference and questions which may arise during the conference.



## **C. SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**



## **C. SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

The following are supplementary to the Instructions to Bidders:

### **C-1 Nominated Subcontractors and Manufacturers**

The bidder shall attach provisional letters of acceptance of the Nominated Subcontractors and Manufacturers for each work hereunder:

Local construction work  
Supply of the gates  
Supply of the pumps  
Supply of the control system

The letter of acceptance shall include the following of the Nominated Subcontractors and/or Manufacturers:

- a) Name and country
- b) Address of head office
- c) Scope of works, items of supply and quantity thereof
- d) Draft of agreement with the bidder

Any change of the Nominated Subcontractor and/or Manufacturer stated in the Bid Documents shall be subject to the approval of the Department.

### **C-2 Signing of Bid**

The bidder shall attach a copy of the latest registration of his organization, together with certificates of assignment, power of attorney or any other documents to prove the legality of the signature(s) on his bid. If such evidence is provided in any language other than English, a translation into English shall also be attached thereto.

In case of a joint-venture or consortium bid, the above-mentioned certificates of each member of the joint-venture or the consortium shall be attached.

### **C-3 Acceptance of Bid**

The Bid Accepting Committee will specifically accept the sealed bids and bid securities delivered at Bid Office only before the bid closing time.

### **C-4 Evaluation and Comparison of Bids**

In addition to the provisions stated in Clause B-15 of Instructions to Bidders, the following consideration shall be taken into account for the evaluation and comparison of the bids.

1. As the Department intends to assure successful completion of the Works under the Bid Documents to the greatest benefit, the bid will be evaluated based upon and subject to the following criteria.

- (1) Evaluation will be based upon the bid price and technical information which appear in the bid.
- (2) Award will be made to only one bidder for the execution of the whole works.

2. The bids which have any of the following will be rejected:

- (1) Failure to furnish signature in the spaces provided in the Form of Bid.
- (2) Failure to submit the Bid Security.
- (3) False statement or fraud.
- (4) Failure to comply with the intent of the Bid Documents.
- (5) No name of the bidder in the list of bidders who purchased the Bid Documents from the Department.
- (6) Failure to complete all of the statements required in Annexes to the Form of Bid.
- (7) Failure to omit initials where there are erasures, corrections or modifications.

3. The Department reserves the right to request the bidder whose bid price appears so low that it is not believed it will be possible to execute the Works successfully to the satisfaction of the Department or that it will expose to the risk of suffering from subsequent damages if the Contract is awarded to such bidder, to furnish the evidence and details of his calculations on quantities of the Works and pricing or other relating facts for further consideration. If the explanation so furnished is not acceptable or after investigation it reveals that such bidder has

made any error in his calculation, or is incompetent otherwise, or something has been omitted, then the Department may reject such bidder.

The bidder shall cooperate fully with the Department in all respects regarding furnishing requested information. Ignorance and non-cooperation on the part of the bidder may result in the bid being disqualified and the Department may reject his bid.

All the rights mentioned herein under C-4 are the rights solely reserved by the Department against which the bidder is not allowed to file any petition or to establish as the cause to claim for any damages from the Department at later date.

#### **C-5 Assignment of Claims for Payment**

1. The assignment of claims for payment under the Contract shall only be made to a local bank or a finance company authorized by the Bank of Thailand to conduct finance and suretyship business.
2. The party who proposes to be the assignor shall issue a receipt stating the amount which shall be deducted for the withholding income tax and indicate such amount as the cost of work or cost of goods.





#### **D. FORM OF BID**



**D. FORM OF BID**

**FORM OF BID  
FOR  
THE BANG PAKONG DIVERSION DAM PROJECT**

TO :

Director General  
Royal Irrigation Department  
Ministry of Agriculture and Cooperatives  
Kingdom of Thailand

Dear Sir :

We, the undersigned bidder having examined the Bid Documents including Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, Form of Bid with Annexes, Form of Contract, Conditions of Contract, Supplementary Conditions of Contract, Specifications, Contract Drawings, Bill of Quantities and Addenda thereto as listed below,

Addendum No.	Date Received
_____	_____
_____	_____
_____	_____

for Bid No. \_\_\_\_\_ the Bang Pakong Diversion Dam Project and having examined the Site of the Project, or having caused the Site to be visited on our behalf by a competent and reliable agent, and having satisfied ourselves as to all conditions under which the Project must be performed, hereby propose to perform the works of the Project for the following bid price which are detailed in the Bill of Quantities :

Total Bid Price : \_\_\_\_\_ ( \_\_\_\_\_ ) Baht.

1. We will send a representative having our power of attorney to \_\_\_\_\_  
\_\_\_\_\_, Bangkok, within Seven (7) days following the date of receipt of  
Notice of Intent to Award Contract for the purpose of assisting the Department  
in preparing the Contract Documents.
2. When the Department has notified that the Contract Documents are ready to be  
signed, we shall send to the office of the Department within Fifteen (15) days a  
representative with proper power of attorney, for the purpose of signing the  
contract.
3. We will commence the works immediately following the date of the Notice to  
Proceed and will complete the Works specified in the Contract within the  
consecutive calendar days indicated in "Annex-A".
4. We will furnish to the Department, before the Contract is signed, a  
Performance Security in accordance with the prescribed form in the amount  
equivalent to Six (6) percent of the total Contract Price, as security of the due  
performance and completion of the Contract.
5. We agree that this bid shall remain valid for a period of One Hundred and  
Eighty (180) days following the date set for the opening of the bid, and may be  
accepted by you at any time before the expiration of such period.
6. We understand that you are not bound to accept the lowest or any bid you may  
receive and that you will not defray any expense which may be incurred by us  
in bidding.
7. As security for the due performance of the undertaking and obligations of this  
bid, we submit herewith a Bank Guarantee as a Bid Security in the amount of  
(        ) Baht.
8. We will furnish before signing the Contract the Insurance Policies requested  
under clause H-7, 8, 9 of the Conditions of Contract according to the specimens  
approved by the Department.

9. We have carefully checked all figures and information submitted with this bid and understand that the Department will not be responsible for any errors or omissions of the undersigned in preparation of this bid.
  
10. This bid is made without relation to any other person, or corporation in making any other bid for the same purpose and is in all respects fair and without collusion or fraud.
  
11. Enclosed Document :

- ANNEX-A : Schedule of Time, Rates and Conditions
- / -B : Bid Security
- / -C : Copy of the Registration of the Organization
- / -D : Joint-Venture or Consortium Agreement, if applicable
- / -E : Agreement of Subcontractors
- / -F : Organization Chart
- / -G : Qualification and Experience of Main Staff
- / -H : Construction Schedule
- / -I : Construction Method
- / -J : List of Major Construction Equipment
- / -K : List of Material Sources
- / -L : List of Subcontractors
- / -M : Manpower Table
- / -N : Estimated Monthly Disbursement
- / -O : Schedule of Unit Prices for Construction Equipment, Materials and Man-power

Date at \_\_\_\_\_  
This \_\_\_\_\_ day of \_\_\_\_\_  
Bidder \_\_\_\_\_  
By \_\_\_\_\_  
Title \_\_\_\_\_  
Address \_\_\_\_\_



**E. ANNEXES TO FORM OF BID**





## **E. ANNEXES TO FORM OF BID**

The following list of annexes mentioned in Clause 10 of the, Form of Bid shall be prepared in accordance with the description and forms mentioned in Clause B-7 of the Instructions to Bidders and in Annexes to Form of Bid.

a) **ANNEX A : Schedule of Time, Rates and Conditions**

The contents of Schedule of Time, Rates and Conditions are as shown in the Attachment (1)

b) **ANNEX F : Organization Chart**

Site organization chart shall be prepared in accordance with the Attachment (2).

c) **ANNEX G : Qualification and Experience of Main Staff**

Qualification and experience of the main staff are as described in the Attachment (3) as well as their respective major works.

d) **ANNEX H : Construction Schedule**

Construction schedule shall be prepared in accordance with the Attachment (4).

e) **ANNEX I : Construction Method**

The bidder shall provide, in his own format, the construction method of the following major works;

- Layout of site arrangement such as location of Contractor's camp, workshop, temporary access roads, the Department's and Consultant's offices and residence, field laboratory, water and power supply facilities for the construction works, etc.
- Manner of excavation and dewatering at the sites of diversion dam, bridge piers, pumping station, etc.
- Manner of excavation under water at the sites of diversion canal, closure dam, etc.

- Manner of removal of excavated materials off site and the bidder's proposal for the spoil bank, if any.
- Manner of pile driving at the foundation of diversion dam, pumping station, etc.
- Manner of concrete mixing, transporting and placing for the construction of diversion dam, pumping station, etc.
- Manner of transportation and installation of gates, pumps and control systems.
- Manner of construction and installation of concrete box girder bridges.
- Manner of embankment of the closure dam.
- Manner of sand compaction pile installation.

f) ANNEX J : List of Major Construction Equipment

The list of major construction equipment shall be described in accordance with the Attachment (5).

g) ANNEX K : List of Material's Sources

The following material sources shall be listed up:

- Cement
- Aggregate & Riprap materials
- Deformed and round bar
- Structural steel
- Steel Sheet Pile
- P.C. pile, R.C. pile, S.P. pile
- Concrete Box Girder of Bridge
- Steel pipe, PVC pipe
- Water stop, asphalt concrete, etc.

h) ANNEX L : List of Subcontractors

Subcontractors including nominated subcontractors who shall accomplish the Works under the Contractor shall be listed up in accordance with the Attachment (6).

i) ANNEX M : Manpower Table

The number of workers to be engaged in the construction shall be described in each category of works as shown in the Attachment (7).

j) ANNEX N : Estimated Monthly Disbursement

Monthly disbursement schedule shall be prepared in accordance with the Attachment (8).

k) ANNEX O : Schedule of Unit Prices for Construction Equipment, Materials and Man-Power

The bidder is requested to fill up all items of the Schedule of Unit Prices for Construction Equipment, Materials and Man-Power as shown in the Attachment (9-1) ~ (9-4).

All unit prices to be entered in the Schedule shall be those at the Site including all costs of procurement, taxes and duties, transporting, loading and unloading, reasonable ratio of loss or wastage, cost of required accommodation or provision for workers, cost of fuel and oil, operators' wages and allowances, spare parts and repair for constructional plant. In general, all unit prices shall be applicable to the provision of equipment, materials and works provided without any additional/overhead costs at the Site.

In case the Department wishes to use the unit prices in the above-mentioned Schedule for any purpose, the Department shall pay or cause to pay only the net quantity.

The Department has the right to check the unit prices in the of Bill of Quantities with those entered in this Schedule of Unit Prices, and the bidder will be requested, if they are deemed unreasonable, to justify his unit prices.

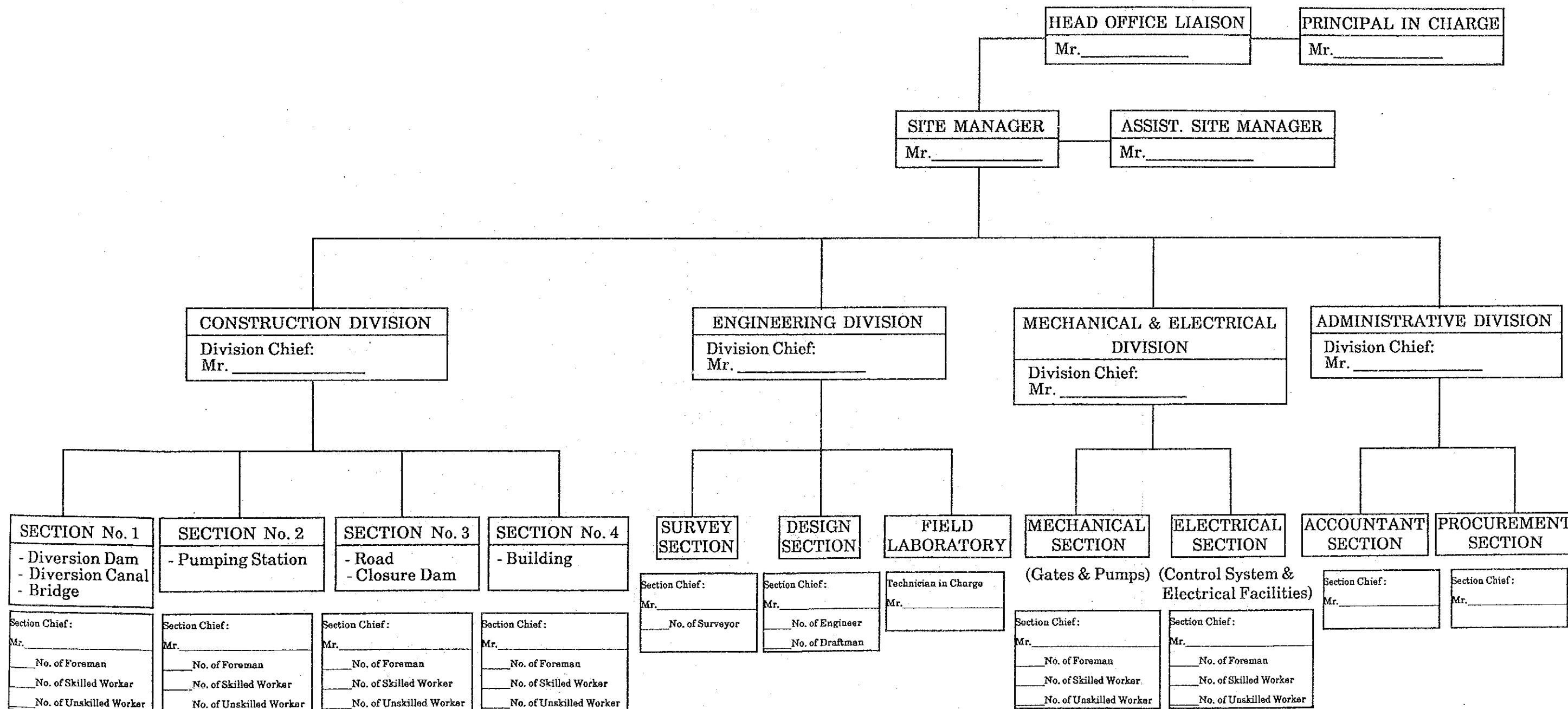
**ANNEX-A: SCHEDULE OF TIME, RATES AND CONDITIONS**

1. Amount of Bid Security ..... (            ) Baht
2. Validity of Bid Security ..... \_\_\_\_\_ (        ) days  
on and after the bid opening date.
3. Notice of Award ..... will be issued within One hundred and Eighty  
(180) days after the bid opening date.
4. Notice to Proceed ..... will be issued within Thirty (30) days from the  
date of issuance of Notice of Award.
5. Commencement of the Works .... within Fifteen (15) days from the date of Notice  
to Proceed issued by the Department.
6. Amount of Performance Security . Five (5) percent of the Contract Price.
7. Amount of Advance Payment .... Ten (10) percent of the Contract Price.
8. Percentage of Retention Money ... Ten (10) percent of each installment of payment.
9. Time for completion not to exceed Forty two (42) Calendar months from the date of the  
commencement of the Works.
10. The Works shall have been substantially completed when the Department issues the  
Certificate of Completion in respect of the Works.
11. Liquidated Damages (per day) .... Zero point one zero (0.10) percent of the Contract  
Price excluding the Contractor's claim and price  
adjustment.
12. Period of Maintenance ..... Twelve (12) months from the date of the issuance  
of the Certificate of Completion in respect of the  
Works.

13. Insurance required (minimum) ...
- (1) Insurance for the Works
  - (2) Insurance for Contractor's Personnel
  - (3) Insurance for Third Party



**ANNEX - F: ORGANIZATION CHART (Sample Form)**



Bidder's Signature : \_\_\_\_\_

**ANNEX - G : QUALIFICATION AND EXPERIENCE OF MAIN STAFF**

Position	Name	Nationality	Proficiency in English	Date of Birth	Last Education (Graduated)		Last Jobsite Engaged		Total Experience	Years with company
					From	On	Name of Project	Duration		

Bidder's Signature : \_\_\_\_\_



**ANNEX-H: CONSTRUCTION SCHEDULE (Sample Form)**

DESCRIPTION OF WORKS	UNIT	QUANTITY	1	2	3	4	5	6	7	8	9	10	11	12	13~42 Month	REMARKS
<b>PART I</b>																
1. General																
(1) Common Temporary Works																
2. Bang Pakong Diversion Dam and Diversion Canal																
(1) Temporary Works																
(2) Excavation for Bang Pakong Diversion Dam and Road Bridge																
(3) Excavation for Diversion Canal																
(4) Piling Works																
(5) Concrete Works																
(6) Manufacture and Installation of O/M Bridge Girder																
(7) Control House																
(8) Manufacture and Transportation of Gates																
(9) Installation of Gates																
3. Closure Dam																
(1) Excavation																
(2) Fill and Backfill																
(3) Sand Compaction Pile																
(4) Jetty																
4. Road and Road Bridge																
(1) Road Construction																
(2) Pier and Abutment Construction																
(3) Manufacture and Installation of Road Bridge Girder																
5. Pumping Station																
(1) Temporary Works																
(2) Excavation																
(3) Piling																
(4) Concrete Works																
(5) Pump House																
(6) Manufacture and Transportation of Pumps																
(7) Installation of Pumps																
6. Control System and Electrical Facilities																
7. Test Operation and Staff Training																
<b>Part II Building</b>																

Note:  
Add the paper and give the details in each month between 13th and 42th,

Bidder's Signature : \_\_\_\_\_





**ANNEX - L : LIST OF SUB-CONTRACTORS**

1. Firm's Name \_\_\_\_\_  
and Country of Incorporation \_\_\_\_\_
  
2. Year Incorporated : \_\_\_\_\_
  
3. Legal Status : \_\_\_\_\_
  
4. Head Office Address : \_\_\_\_\_
  
5. Names and Positions \_\_\_\_\_  
of Principal Officers : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
6. Number of Engineers (permanent employment only) :  
\_\_\_\_\_
  
7. Number of Technicians, Foremen & Operators (Permanent employment only) :  
Technicians \_\_\_\_\_  
Foremen \_\_\_\_\_  
Operators \_\_\_\_\_
  
8. Value of contracts which the sub-contractor completed in last 3 years :  
Baht \_\_\_\_\_
  
9. Category of works to be executed by the sub-contractor:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**ANNEX - M : MAN - POWER TABLE**

from \_\_\_\_\_ to \_\_\_\_\_

Sheet No. \_\_\_\_\_

Job Site	Categories of Man-Power	1	2	3	4	5	6	7	8	9	10	11	12	13~ 42*	Total	Remarks
	Sub-Total															
	Sub-Total															
	Sub-Total															
	Grand Total															

\* Note: Add the paper and give the details in each month between 13th and 42th.

Bidder's Signature : \_\_\_\_\_

**ANNEX - N : ESTIMATED MONTHLY DISBURSEMENT**

Sheet No. \_\_\_\_\_

Kinds of Works	Pay Item Nos. in Bill of Quantities	Amount	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 ~ 42*	Remarks
<b>PART I</b>																		
1. General																		
1-1 General Requirement																		
1-2 Common Temporary Works																		
1-3 Employer's and Consultant's Facilities																		
2. Bang Pakong Diversion Dam and Diversion Canal																		
2-1 Temporary Works																		
2-2 Civil Works																		
1) Excavation for Bang Pakong Diversions Dam and Road Bridge Construction																		
2) Excavation for Diversion Canal Construction																		
3) Other Earthworks																		
4) Piling Works																		
5) Concrete Works																		
6) O/M Bridge																		
7) Control House																		
8) Other Works																		
2-3 Mechanical Equipment																		
3. Closure Dam																		
3-1 Temporary Works																		
3-2 Civil Works																		
1) Excavation																		
2) Fill and Backfill																		
3) Sand Compaction Pile																		
4) Jetty																		
4. Road and Road Bridge																		
4-1 Temporary Works																		
4-2 Civil Works																		
1) Concrete Works																		
2) Road Bridge																		
3) Other Works																		
5. Pumping Station																		
5-1 Temporary Works																		
5-2 Civil Works																		
1) Excavation and Piling																		
2) Concrete Works and Other Works																		
5-3 Mechanical Equipment																		
6. Control System and Electrical Facilities																		
6-1 Temporary Works																		
6-2 Water Level Gauging Station																		
6-3 Monitoring and Paging Systems																		
6-4 Mechanical Equipment																		
6-5 Electrical Facilities for Diversion Dam																		
6-6 Electrical Facilities for Control House																		
6-7 Cabling Work between Control House and Hoist Houses																		
6-8 Road Lighting																		
7. Test Operation and Staff Training																		
Sub-Total ①																		
<b>PART II BUILDING ②</b>																		
Total (① + ②)																		

\* Add the paper and give the details in each month between 15 th and 42th

Bidder's Signature : \_\_\_\_\_





**ANNEX - 0 SCHEDULE OF UNIT PRICES FOR CONSTRUCTION EQUIPMENT,  
MATERIALS AND MAN - POWER**

**1. Construction Equipment**

Item	Description	Unit	Unit Price (Baht)
1-1	Bulldozer, 21 ton	hour	
1-2	" , 32 ton	"	
1-3	Supper Swamp Bulldozer, 13 ton	"	
1-4	" , 18 ton	"	
1-5	Backhoe Shovel, 0.6 cu . m	"	
1-6	" , 1.2 cu . m	"	
1-7	Dragline, 1.0 cu . m	"	
1-8	" , 2.0 cu . m	"	
1-9	Front - end Loader, wheel type, 0.8 cu . m	"	
1-10	" , 1.2 cu . m	"	
1-11	" , 1.7 cu . m	"	
1-12	" , 2.3 cu . m	"	
1-13	Front - end Loader, crawler type, 1.8 cu . m	"	
1-14	" , 2.2 cu . m	"	
1-15	Dump truck, 8 ton	"	
1-16	" , 11 ton	"	
1-17	" , 20 ton	"	
1-18	Truck, 6 ton	"	
1-19	" , 10 ton	"	
1-20	Trailer, 30 ton	"	
1-21	Crawler Crane, 25 ton	"	
1-22	" , 35 ton	"	
1-23	" , 50 ton	"	
1-24	" , 100 ton	"	
1-25	" , 150 ton	"	
1-26	Truck Crane, 20 ton	"	
1-27	" , 35 ton	"	
1-28	" , 45 ton	"	
1-29	" , 70 ton	"	
1-30	" , 90 ton	"	
1-31	" , 130 ton	"	
1-32	Direct Support Type Pile Driver, for 4.5 ton Ram	"	
1-33	Diesel Pile Hammer, 3.5 ton Ram	"	
1-34	" , 4.5 ton	"	
1-35	Vibro Hammer, 60 kw	"	
1-36	Sand Pile Driver, leader length 30 m, vertical vibratory hammer 75 kw, casing diameter + 40 cm	"	
1-37	Motor Grader, blade width 3.1 m	"	
1-38	Tire Roller, 8.5 ~ 20 ton	"	
1-39	Road Roller, 8 ~ 10 ton	"	
1-40	Vibratory Roller, self propelled, 6 ~ 7 ton	"	

Item	Description	Unit	Unit Price (Baht)
1 - 41	Rammer, 120 kg	hour	
1 - 42	Vibratory Plate Compactor, 100 kg	"/	
1 - 43	Pump Dredger, 1200 PS	"/	
1 - 44	Tug Boat, 250 PS	"/	
1 - 45	Bottom Dump Barge, 200 m <sup>3</sup>	day	
1 - 46	Concrete Plant, 0.50 cu.m	hour	
1 - 47	" , 0.75 cu.m × 2	"/	
1 - 48	Agitator Car, 3.0 cu.m	"/	
1 - 49	Concrete Pump Car, 60 cu.m/hr	"/	
1 - 50	Electric Welder, 300A	day	
1 - 51	Electric Welder, 500A	"/	
1 - 52	Blower, 3.7 kw	"/	
1 - 53	Diesel Generator, 15 KVA	"/	
1 - 54	" , 45 KVA	"/	
1 - 55	" , 75 KVA	"/	
1 - 56	Compressor, 5.0 cu.m/min	"/	
1 - 57	" , 10.5 cu.m/min	"/	
1 - 58	Submerged Pump, ø 50 mm × 3.7 kw	"/	
1 - 59	" , ø 80 mm × 5.5 kw	"/	
1 - 60	" , ø 100 mm × 9.4 kw	"/	
1 - 61	" , ø 150 mm × 19 kw	"/	

Note: (1) The Bidder shall add the construction equipment which are listed in Attachment (5) "Annex - J : List of Major Construction Equipment" but not shown in this table.

(2) Hour means net operating hour at the Site.

(3) Day means 24 hours regardless of the operating hour.

## 2. Materials

Item	Description	Unit	Unit Price (Baht)
2-1	Portland Cement (TIS 15 Type V)	ton	
2-2	Coarse Aggregate for Concrete	cu.m	
2-3	Fine Aggregate for Concrete	◇	
2-4	Riprap Material	◇	
2-5	Bedding material, sand and gravel	◇	
2-6	Selected Materials for Sub-base course of Road	◇	
2-7	Selected Materials of Base Course of Road	◇	
2-8	Selected Materials for Subgrade of Road	◇	
2-9	Selected Materials for Earthfill Zone of Closure Dam	◇	
2-10	Deformed Bar	ton	
2-11	Round Bar	◇	
2-12	Structural Steel	◇	
2-13	Steel Sheet Pile	kg	
2-14	P. C. Pile $\phi$ 300 mm	m	
2-15	◇ $\phi$ 500 mm	◇	
2-16	◇ $\phi$ 600 mm	◇	
2-17	S. P. Pile $\phi$ 450 mm, t = 9 mm	◇	
2-18	◇ $\phi$ 800 mm, t = 9 mm	◇	
2-19	◇ $\phi$ 800 mm, t = 12 mm	◇	
2-20	Steel Form	sq.m	
2-21	Timber Form	◇	
2-22	Timber	cu.m	
2-23	Asphalt Concrete for Road Surfacing	ton	
2-24	Gasoline	liter	
2-25	Diesel Oil	◇	

## 3. Man-power

Item	Description	Unit	Unit Price (Baht)
3-1	Common Labor	day	
3-2	Skilled Labor	"	
3-3	Concreter	"	
3-4	Welder	"	
3-5	Steel Bender/Fixer	"	
3-6	Carpenter	"	
3-7	Mason	"	
3-8	Mechanic	"	
3-9	Electrician	"	
3-10	Heavy Equipment Operator	"	
3-11	Driver	"	
3-12	Topo Surveyer with Equipment	"	
3-13	Technician	"	
3-14	Foreman	"	

The specified unit is for normal working day of day time basis, and additional rates are as below :

For Night shift : Unit Price  $\times$  (1 + \_\_\_\_\_)  
 For Holiday shift : Unit Price  $\times$  (1 + \_\_\_\_\_)  
 For Night shift of Holiday : Unit Price  $\times$  (1 + \_\_\_\_\_)

## **F. FORM OF BID SECURITY**



**F. FORM OF BID SECURITY**

**FORM OF LETTER OF GUARANTEE  
(Bid Security)**

No. \_\_\_\_\_

Date : \_\_\_\_\_

We,           (Name of Commercial Bank)           hereby establish this letter of guarantee in favor of           (Name of the Government Agency concerned)           as follows:

- (1) As           (Name of Bidder)           has submitted a bid \_\_\_\_\_ against Invitation to Bid No. \_\_\_\_\_ whereby           (Name of Bidder)           has to deposit with the Government Agency earnest money as Bid Security in respect of the terms and conditions of the Invitation to Bid in the Amount equivalent to \_\_\_\_\_ Baht ( \_\_\_\_\_ ), we agree unconditionally to irrevocably guarantee, as a primary obligor, the payment to the Government Agency on its first demand, without whatsoever right of objection on our part and without its first claim on           (Name of Bidder)           in the amount of           (in figure)                     (in words)          , in the event           (Name of Bidder)           fails to sign the relative contract upon being notified the award of contract, or fails to submit the required Performance Security within the time limit specified in the Bid Documents or does not abide by any conditions of the bid.
- (2) This letter of Guarantee is valid from \_\_\_\_\_ up to \_\_\_\_\_ and we will not cancel our guarantee within this specified period.
- (3) If the           (Name of Bidder)           extends the period of validity of the bid, we will extend the validity of this guarantee by an equal period without delay upon being notified.

IN WITNESS WHEREOF, we,           (Name of Commercial Bank)           have caused these presents to be signed by our authorized representative and our corporate seal to be hereunto affixed.

\_\_\_\_\_ Guarantor

\_\_\_\_\_ Witness

\_\_\_\_\_ Witness







JICA