



Royal Government of Cambodia
Ministry of Rural Development



Contracts Management

LABOUR-BASED ROAD
CONSTRUCTION WORKS

prepared by

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rural
infrastructure
improvement
project

adb loan no 1385-cam (sf)

Phnom Penh, July 1999



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Introduction

The contract documents and the management procedures described in these guidelines, have been prepared for the purpose of engaging domestic small-scale contractors for the execution of rural road construction applying labour-based light equipment supported work methods. They can be applied to new construction, rehabilitation of existing roads as well as periodic road maintenance works.

This contracts management system has been developed for the Rural Infrastructure Improvement Project bearing in mind the specific requirements of this Project and the administrative procedures and regulations under which this Project operate (such as the procurement regulations of MoEF and ADB). Including these concerns, it has still been possible to design a system which follows standard practices and principles for contracting and which thereby allows the system to be applied for works in other similar projects where rural road construction and rehabilitation works are carried out.

The contract documents and procedures are based on existing materials in the country as well as introducing standards recommended by the Asian Development Bank when using local contractors. Also, due acknowledgement is hereby given to the ILO labour-based road works programme for materials and research which have been incorporated in the RIIP contracts management system.

The general documents follow a standard which is applied to all civil works in the RIIP (i.e. bridges, culverts, gravel supply, buildings, wells, irrigation structures, etc.). The technical part of the contract documents has been prepared in such a way that the choice of labour-based appropriate technology is secured as the mode of implementation. As part of this consideration, the technical specifications have been carefully designed to conform with the Technical Manual prepared for the Project.

Contract preparation, supervision and payment procedures are based on a system where authority is decentralised to the provincial level, thus obtaining a more responsive and efficient system, allowing the Client to perform its duties effectively in terms of supervising works dispersed over a large geographical area.

This manual is divided into three parts. The first section describes the system as a whole and how the individual activities are linked together into a process. The second section describes in detail how each of the contract documents is used, and finally the last section contains samples of all the documents referred to in earlier sections.

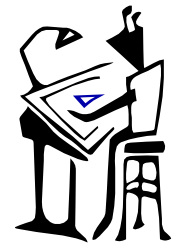


1.1 Contract Documents

Contract Documents for labour-based road works comprise of:

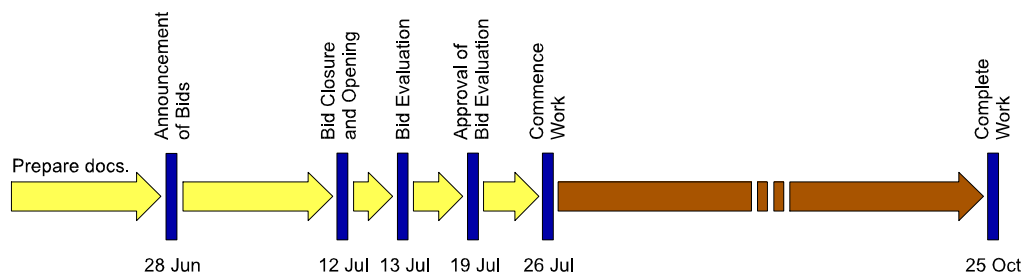
- Bidding:
 - Invitation to Bids
 - Work Specifications
 - Technical Drawings
 - Bill of Quantities
 - Instructions to Bidders
 - General Conditions of Contract
 - Specific Conditions
 - Appendix to Conditions of Contract - Contract Data
 - Form of Bid
 - Form of Agreement
- Evaluation:
 - Evaluation of Bids
- Payment Certificates:
 - Payment Breakdown
 - Interim Payment Certificate,
 - Certificate of Practical Completion,
 - Final Certificate of Completion

Section 2 describes the exact use of these documents, how they are prepared, by whom, approval and filing procedures, etc. Samples of all the above mentioned documents are found in Section 3.



Bidding documents for specific contracts are prepared by the Assistant Engineers, and should be controlled and verified by the Provincial Engineer and the Consultant.

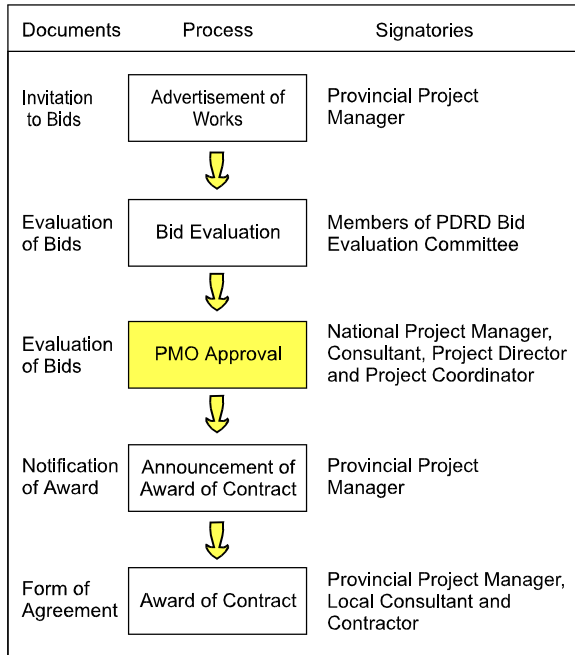
It is important that a time schedule is fixed and agreed with the Provincial Project Manager before commencing on contract preparation. Important dates include date of announcement, bid closure, commencement and completion of works.



Remember that the above dates need to conform with the overall work programme in the province as well as any other contracted works planned for each specific road project (i.e. bridges, culverts, laterite supply, etc.). It is the responsibility of the Provincial Engineer to coordinate the various components of the contract preparation process with the overall physical works programme.

1.2 The Bidding Process

All road works contracts follow a set of procedures which clearly defines the role and responsibilities of the Project Implementation Units as well as the Project Management Office.



Contracts for labour-based road works are prepared by the PIUs, including announcement of bids, bid opening, bid evaluation, award of contract, inspection and supervision of works, certification and payment of works and finally issue of final completion certificates.

The Project Management Office is responsible for the approval of the budget of each of the road projects, approving the Engineer's Estimate and final approval of the findings of the bid evaluation carried out by the PIUs.

The bidding process is regulated by the Project Administration Manual, issued by the Ministry of Economy and Finance. Depending on the size of the contracts to be issued, MoEF prescribes different methods for the bidding process:

Domestic Canvassing

For civil works contracts with a total value less than US\$ 50,000:-, the procedures for domestic canvassing can be applied. This basically implies that a minimum of three quotes is obtained from three separate qualified companies.

Local Competitive Bidding



For civil works contracts with a total value greater than US\$ 50,000:-, it is necessary to announce works, following the procedures for local competitive bidding. In essence, this implies (i) that an official bid announcement needs to be carried out and (ii) that any qualified bidders may participate in the bidding process. This involves advertising the works in local newspapers as opposed to domestic canvassing where only a limited number of firms are invited to submit bids. For LCB, it is also necessary to invite a representative from MoEF to participate in the bid evaluation.

If the contract value exceeds US\$ 500,000:-, bids will need to be advertised using ADB's procedures for International Shopping or Competitive Bidding. It is expected that all labour-based road works contracts will be limited to amounts where either domestic canvassing or local competitive bidding will be the appropriate procedure.

Both these announcement procedures require the same type of bidding documents and follow the same procedures for bid evaluation and award of contract. Although it is not required to advertise bids for contracts with a value less than US\$ 50,000:-, it may prove a useful method of attracting more contractors to work with the Project.

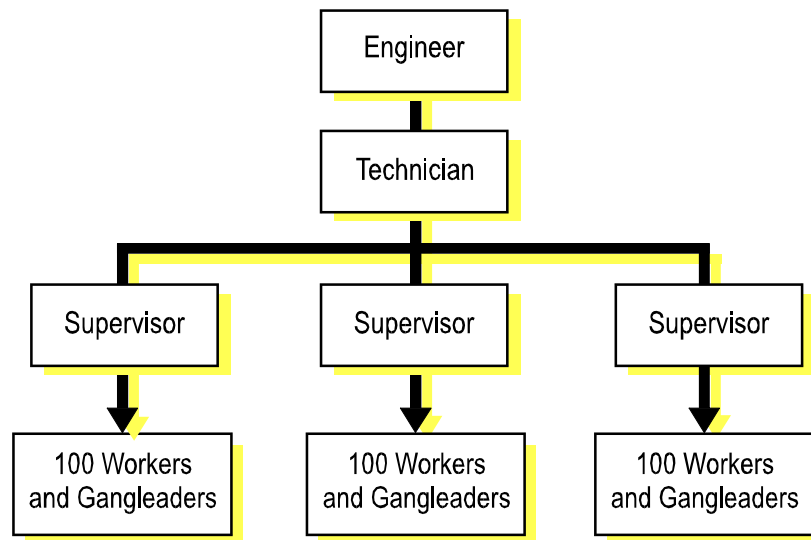
Pre-qualification

It is important that the PIU ensures that bids are obtained from firms that are qualified to carry out the works as requested in the bidding documents. Ensuring that competitive bids are obtained from qualified bidders is a fundamental measure in attempting to ensure that works are carried out in time and to high quality standards once a contract has been awarded.

For labour-based road works, the main concern of the Client is that the company possesses qualified staff, which is fully conversant with labour-based appropriate technology (LBAT). This implies that the bidders need to provide the Client with evidence, showing that their staff has (i) received adequate training in LBAT and (ii) can show past experience in carrying out similar type of works.

Depending on the magnitude of the works, the bidder will need to provide details of the site supervisory staff from site supervisors, technicians to engineers. Furthermore, if this staff chooses to leave the company during the execution of a labour-based road works contract, the contractor will be obliged to recruit new professionals with similar work experience and training.

In order to ensure a monthly average output of 1.5 km of road rehabilitation using labour-based appropriate technology, the core staff required from a Contractor is as shown below:



1.3 Bid Evaluation

Bid evaluation should be carried out immediately after the bid opening. It is important to bear in mind that the bid evaluation is a distinct exercise, which is separate from the bid opening exercise.

While the bid opening session is open for the public to participate in, and in particular the firms from which bids have been received, the bid evaluation is an internal management meeting in which all discussions are confidential. This implies that only the members of the PIU bid evaluation committee are present during this exercise and their final selection of most successful bidders should not be announced before a final approval of the evaluation has been obtained from the PMO.

Before the bid evaluation committee convenes its meeting, the Provincial Engineer will need to carry out a series of preparatory activities. The most important duties before conducting the bid evaluation are (i) to prepare the Engineer's Estimate and (ii) check the bids for any arithmetic errors in the calculation of the total bid values. In addition, there may be a demand for verifying the firms qualifications, whether they have the necessary capacity to carry out the works, their past performance, their staff availability, condition of equipment, etc. This information should be compiled and presented in a summary table to the bid evaluation committee when it convenes, thereby assisting its individual members in making the right assessment of the bidders and finally taking the correct decision in terms of the best bid.



Once the ratings of the bidders have been decided upon, the Bid Evaluation Form is prepared and submitted for final approval by PMO. The form should list the most successful bidder, the second best, the third best, etc. (if any). If for any reason the most successful bidder decides not to carry out the contract, the evaluation committee has already decided that the second best bidder will be awarded the contract. It is important that only bids, which are not rejected, are entered into this form. This implies that any bid, which is deemed too expensive or not qualified, should not be entered into the bid evaluation form.

Finally, it should be noted that the bid evaluation committee has the authority to reject any bid or all bids. If all bids are rejected, the PIU will need to re-bid. Equally, the bid evaluation committee is not obliged to choose the lowest bid. The selection of the most successful bid should be based on several factors, bid price, past performance, staff qualifications, present capacity, etc.

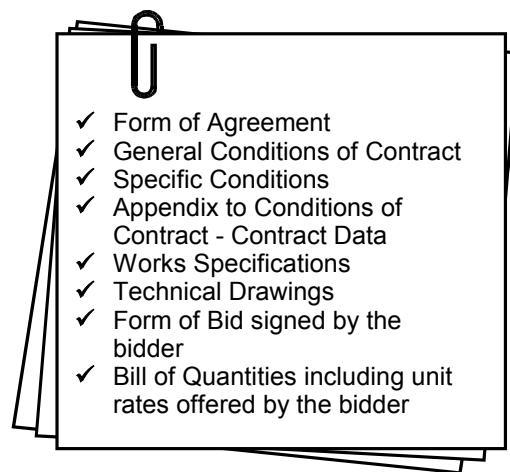
Of particular importance is the contractors current capacity and availability to carry out the works during the period envisaged in the physical work plan. If it is evident that a firm cannot carry out the works between the start and completion dates envisaged in the bidding documents, the bid should be given a lower rating or rejected.

1.4 Award of Contract

After final approval by PMO of the findings of the bid evaluation, the contract is awarded by the PIU to the most successful bidder. The PIU should notify the Contractor immediately after obtaining PMO approval of the evaluation, thereby allowing the Contractor to mobilise as soon as possible.

It is important to note that once the bid evaluation has been approved, the contractor is expected to mobilise immediately upon receiving the notification of award. In other words, the contractor is expected to commence works even before a contract agreement has been signed.

When issuing a contract agreement, the following documents should be included:



The contract is prepared by the PIU. It is the responsibility of the Provincial Engineer to prepare the contract based on the above documents issued during the bidding process. When issuing the contract agreement, no changes should be made to the conditions of contract. Furthermore, the contract should include the Bill of Quantities and Form of Bid as submitted by the most successful bidder. Only arithmetic errors should be corrected in these two forms submitted by the bidder.

The contract agreement should be signed by the Provincial Project Manager, an authorised representative of the contractor and the PIC Field Engineer. When the contract has been signed by all parties, a full copy should be sent to the Project Management Office.

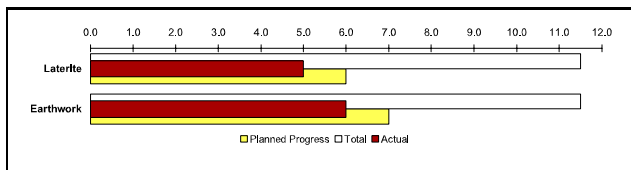
The contract agreement serves as supporting evidence for any payments processed under the contract. Therefore, the original copy should be kept in the PIU until the works as defined in the contract have been completed, including the defects liability period.

1.5 Contract Management

Total Quant.			1999												Percent	
Unit	Plan	Actual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Compl.	
Earthwork	km	11.5	6.0	Plan	0.5	1.0	1.5	2.0	2.0	1.5	1.5	2.5				52
				Actual	0.5	1.0	1.5	2.0	1.0							
Laterite	km	11.5	5.0	Plan				2.0	4.0	2.0		1.5	1.0	1.0		43
				Actual				2.0	3.0							
Cummulative Up to This Month																Percent Progress
Earthwork	km	7	6	Plan	0.5	1.5	3.0	4.0	7.0	8.5	10.0	11.5				86
				Actual	0.5	1.5	3.0	5.0	6.0							
Laterite	km	6	5	Plan				2.0	6.0	8.0		9.5	10.5	11.5		83
				Actual				2.0	5.0							

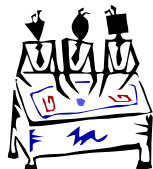
Within two weeks of Notification of Award, the Contractor is obliged to submit a works programme to the PIU, covering the entire construction period. This should be done in the same fashion as the time-location charts used for the force account operations.

These forms should be updated at least on a monthly basis for each site, thus allowing the PIU to incorporate these plans in the overall progress plans for the province and the road component as a whole.



The PIU will need to carefully coordinate the road works contracts with delivery of laterite, construction of culvert and bridges and other structural works along the road alignment. In this respect, it is important that this planning starts already before the preparation of the individual contracts. The ideal situation would be to issue the culvert and bridge contracts first, thereby ensuring proper access when the road works activities commence.

Equally, it is important that the division of works between the various contracts is clear. As an example, it must be made clear through the provision of work activities in the Bill of Quantities, which Contractor constructs traffic and river diversions, back-filling of bridge abutments, etc.



The PIU should on a weekly basis arrange progress meetings with the contractors where implementation issues are discussed in detail. These meetings can be held at the site or at the PIU office. The PIU is responsible for calling the meetings and the Contractor is obliged according to the Special Conditions of Contract to attend these meetings.

Written minutes should be maintained on all decisions made during the progress meetings with the contractors. In addition, all instructions issued to the contractors on site should be made in writing. This is best organised by requesting each contractor to have a notebook on site in which all instructions are entered. These instructions should include the quantities agreed on, which deviate from the original bill of quantities and volume tables in the contract, as well as instructions issued relating to improved methods of construction, quality, replacement of staff, changes in work programme, etc. During the next site visit of the Engineer, it is then important that the instructions of the previous site visit are carefully reviewed before new instructions are issued.

Labour-based road works contracts need to be monitored in the same way as force account operations. This implies that the Contractor needs to submit a Muster-roll at the end of each month as well as providing details of work outputs.

1.6 Payment Certificates



Any payment made to the contractor should be based on completed works, which have been measured and approved by the Engineer and deemed compliant to the quality standards established by the project. Under no circumstances shall the contractor be paid for works, which have not been completed or have been carried out to sub-standard quality.

During the course of works implementation, it is expected that deviations may occur from the Engineer's estimated quantities. *However, the payments are based on the actual measured quantities - not the amounts as listed in the Bill of Quantities.*

Before the contractor carries out any works, which deviates from the Bill of Quantities and the Technical Drawings, the Contractor needs to obtain written approval for such works from the Engineer. Payment will not be approved for any additional works, which have not received prior approval from the Engineer.

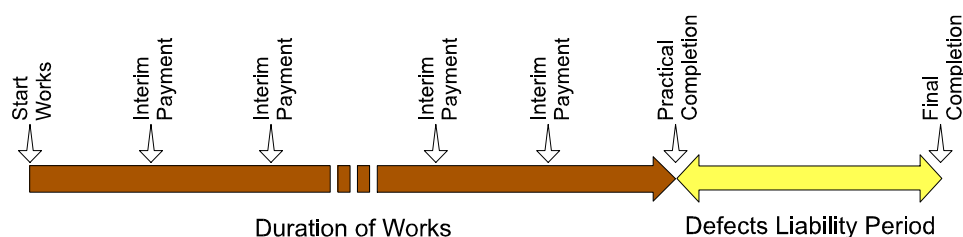


Payment of completed road works are recorded in the following forms which attempts to standardise procedures and ensure compliance to the Conditions of Contract as well as prescribed accounting practices:

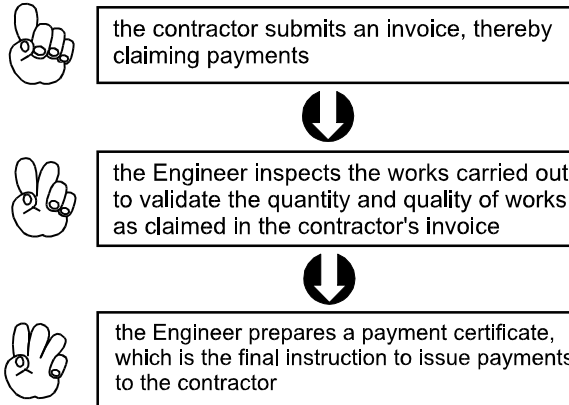
- ✓ Payment Breakdown
- ✓ Interim Payment Certificate for Road Works
- ✓ Certificate of Practical Completion of Road Works
- ✓ Final Certificate of Completion for Road Works

The Payment Breakdown is merely a detailed breakdown of payment according to the various activities listed in the Bill of Quantities. This form acts as a supporting document to the payment certificates.

There are three different types of payment certificates issued during the course of a contract. The Interim Payment Certificate is used for partial payments during the course of works implementation. The number of interim payment certificates to be issued depends on the duration of the contract and the payment schedule as agreed to in the Appendix to Conditions of Contract. When all works have been completed, the final remaining payment will be processed with the Certificate of Practical Completion. This will also be the start of the Defects Liability Period. At the end of the Defects Liability Period and after the contractor has completed any remedial works, the Final Certificate of Completion is issued.



Payment of works completed under a civil works contract is carried out according to the following three basic steps:



Remember that retention monies are always deducted from the amount due for payment to the contractor, according to the amount of works completed since the previous payment. Retention on interim payments should *not* be calculated from the total contract value.



Actual payments to the Contractor should be issued by cheque in favour of the contracting firm or its authorised representative or by direct bank transfer. Under no circumstances should the contractor be paid in cash.

Payment Breakdown

The Payment Breakdown contains the details for the calculation of interim payments due to the contractor. When the contractor requests payments for completed works, the Engineer needs to visit the site and measure the works carried out since the previous payment.



Please note that (i) it is the responsibility of the Engineer to ensure that payments are made only for works which have been completed and (ii) that completed works are inspected to verify that the works have been completed to the technical standards and quality prescribed in the contract.

Finally, when measuring the completed works, make sure that the units and methods of measurement as defined in the works specifications are adhered to.

Interim Payment Certificate for Road Works

Once works have been measured and found in good order, the total amount from the Payment Breakdown is transferred to the Interim Payment Certificate. On the basis of this amount, the percentage completion can be calculated. Make sure that the payment conforms to the Payment Schedule specified in the Appendix to Conditions of Contract.

Retention money is deducted from the total amount in the Payment Breakdown. For road works, it is recommended that 15 percent retention is applied (Ref. Appendix to Conditions of Contract). This percentage is deducted from the invoice amount (not the total contract value). By subtracting the deductions from the invoice amount, the final amount due for payment is calculated. This same figure is then used to record the expenditure in the PIU accounts. Please note that at this stage the retention money should not be recorded as an expenditure. The retention should be recorded as a liability to the contract.



Finally, for monitoring purposes, any previous payments are recorded, together with the total contract value and the remaining contract balance.

After the payment certificate has been signed by the Provincial Engineer, the Consultant and the Provincial Project Manager, payments can be processed to the contractor.

Certificate of Practical Completion of Road Works

The Certificate of Practical Completion Form is used for processing payment for the last remaining works at the end of the contract. This form should also be accompanied with a Payment Breakdown, thereby documenting that the final works also have been properly completed.

Once the remaining works have been inspected and found in good order, the contractor is eligible for payment of (i) the remaining works and (ii) half of the retention monies. The amount of retention money to be paid out at this stage is half of all retention monies with-held so far, including half of the retention calculated for the final works due under this payment. The remaining half of the retention money should be held back until the end of the defects liability period.

Once again, only the actual payment issued to the contractor should be recorded as an expenditure. Any remaining retention money should only be recorded when it has been paid to the contractor.

The date of issuance of the Practical Completion Certificate is the starting date of the defects liability period and should be the same as when the final works were inspected and approved.

Final Certificate of Completion for Road Works

The Final Certificate of Completion is issued after (i) the defects liability period has expired, and (ii) any remedial works have been inspected and found in good order.

Once payment of the remaining retention money has been made, all obligations from both parties to the contract are regarded as fulfilled. This also constitutes the final completion of the contract. Only at this stage should the final retention money be recorded as an expenditure.

1.7 Contract Register

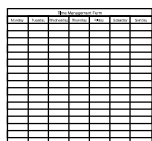
It is important that all contracts awarded are recorded in the Contracts Register in the PIU as well as the PMO. Not only is the contract register an important tool for expenditure forecasting - it also provides an excellent overview of all the contractors which in the past have carried out works for the Project, as well as providing a summary of all the construction companies currently engaged by the Project.

The contracts register is an important reference source when carrying out a bid evaluation. Through the contracts register, it is possible to quickly establish whether a bidder has carried out works previously for the Project.

Also, it is possible to establish whether a contractor is currently or in the process of being engaged by the Project for other works. This information may affect the assessment of the contractor's current capacity to take on new work. If the contractors are already engaged by the Project, they may have already committed their equipment and qualified staff to other on-going works.

All this information has a direct impact on the final selection of the best bid during a bid evaluation. As mentioned earlier, it is important that the evaluation committee selects a bid from a firm which can commence works according to the time schedule specified in the bidding documents - with the required equipment and personnel. Furthermore, if the contracts register shows that a firm has worked for the Project before, it is then an important source for obtaining information regarding the firm's past performance.





Instructions to Contract Documents

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Invitation for Bids

- Purpose:** The Invitation for Bids provides the announcement to the public of works intended to be carried out using private domestic contractors which have been prequalified to carry out road construction works applying labour-based construction methods.
- Responsibility:** The Assistant Engineer is responsible for preparing the bidding documents including the Invitation for Bids. It should be checked by the Provincial Engineer together with the other bidding documents to ensure that they have each been completed accurately, as well as being consistent with each other.
- Timing:** The Invitation to Bids should be prepared and announced only after all other bid documents have been prepared. If the procedures for local competitive bidding are applied, this announcement should also be advertised in local newspapers, *at least two weeks before the bid closing date*. If the newspaper advertisement is written in Khmer language, ensure that the information relation to the financing agency is included.
- Procedure:** The Invitation for Bids contains the most basic information relating to works for which the Client wishes to engage a construction firm. Further detailed information can be obtained at the address mentioned in the announcement and by acquiring the complete set of bidding documents. The following information should be included in the bid announcement:
- Date:** The date of announcement should be at least two weeks before bid closure, thus allowing the bidder sufficient time to inspect the work sites and prepare their bids.
- Province:** Enter the name of the province(s) in which the works sites will be located.
- Contract No:** Establish a unique contract number for each contract. This number will be used as a reference for all related contract documents, correspondence and accounting activities.
- Road Length:** Insert the exact length of the road construction works (km).
- Location:** Enter the exact location of the road, where it starts and ends.
- Address:** Insert the exact street and postal address, fax and phone number to which requests for further information or bidding document are directed.
- Bid Closure:** The bid closure date and time should be at least two weeks after the announcement date. Check that the date specified here is the same as mentioned in the Instructions to Bidders.
- Bid Opening:** Bid opening should preferably be scheduled to immediately after bid closure. This provides more accountability in the bid submission and closure procedures. If it is not possible to conduct the bid opening at the date for bid closure, it is recommended that the bid closure date is changed to a suitable time when bid opening can take place.
- Approval:** The Invitation for Bids should be approved by a senior management official (i.e. the Provincial Project Manager), thus sanctioning the start of the contract announcement and award procedures.
- Filing:** The Invitation for Bids should be posted on notice boards accessible to the general public. When bids are announced in the provinces, copies should immediately be provided to the Project Management Office. A copy is also filed at the PIU in a designated file for each type of contracts.

Form of Bid

- Purpose:** The Form of Bid provides the standard letter in which the bidder states the total price of his/her bid proposal. Furthermore, it provides a statement from the bidders that they commit themselves to the conditions of contract and guarantee the quoted price for a certain period as mentioned in the form. When the bid evaluation has been approved by the project management, the bid form can be used as a binding contract until a contract agreement has been signed by all parties.
- Responsibility:** The Assistant Engineer is responsible for preparing the bidding documents -including the Form of Bid, only leaving the bid price and signature of the bidder open. It should be checked by the Provincial Engineer, together with the other bidding documents, to ensure that they have each been completed accurately, as well as being consistent with each other.
- Timing:** Since the Form of Bid forms part of the bid documents and after contract award is construed as part of the agreement, it needs to be checked for its accuracy before announcement of bids.
- Procedure:** The Form of Bid is an essential part of the bidding documents, and should always be provided when inviting for bids. Make sure that the correct version of the Form of Bid is supplied to the bidder, according to the type of works (bridge works, road construction, laterite supply, etc.).
- The detailed information pertaining to a specific contract, which is prepared in advance of announcement of bids, is as follows:
- Contract Name:** Enter the location of the road construction works.
- Contract No:** Establish a unique contract number for each contract. This number will be used as a reference for all related contract documents, correspondence and accounting activities.
- To:** Insert the address to where the bid should be submitted. Check that this information corresponds to the details given in the Invitation for Bids and the Instructions to Bidders.
- Bid Validity:** A reasonable period of bid validity is 60 days. If this period is changed, make sure that the bid validity period in the Instruction to Bidders is changed accordingly.
- On submission of their proposals, the bidders are required to provide the following details to be inserted in the Bid Form:
- ✓ the total quoted price, written in numbers and words under Clause (1),
 - ✓ date of submission of Bid,
 - ✓ signature of company representative
 - ✓ name, address and telephone of bidder.
- Filing:** All bids received need to be properly filed for later auditing. The Bid Form of the successful bidder forms part of the contract agreement.

Instructions to Bidders

- Purpose:** The Instructions to Bidders provide the basic rules and regulations for the bidding process. It describes in detail all the procedures for submitting a bid, as well as defining the terms on which the bids will be evaluated.
- Responsibility:** The Assistant Engineer is responsible for preparing the bidding documents including the Instructions to Bidders. It should be checked by the Provincial Engineer together with the other bidding documents to ensure that they have each been completed accurately, as well as being consistent with each other.
- Timing:** Since the Instructions to Bidders form part of the bid documents, it needs to be completed and checked for its accuracy before announcement of bids. If a large number of bidders is expected, make sufficient time allowance for printing the bidding documents in sufficient numbers.
- Procedure:** The Instructions to Bidders form part of the bidding documents, and should always be provided when inviting for bids when applying the procedures for local competitive bidding (can also be used for domestic canvassing). Make sure that the correct version of the Instruction to Bidders is supplied to the bidder, according to the type of works (bridge works, road construction, laterite supply, etc.).
- Most of this document contains standard clauses which remain valid for all type of contracts. The standard Instructions to Bidders for labour-based road construction works require detailed information pertaining to a specific contract in the following clauses:
- 1.1 Enter the location of the road construction works.
 - 1.2 Enter the estimated duration of the works, during which the Contractor needs to complete the works.
 - 16.1 A reasonable period of bid validity is 60 days. If this period is changed, make sure that the bid validity period in the Bid Form is changed accordingly.
 - 19.2 Insert the address to where the bid should be submitted. Also enter the appropriate contract number and time and date for the bid opening. Check that this information corresponds to the details given in the Invitation for Bids.
 - 23.1 Ensure that the address provided here corresponds to the address mentioned in Clause 19.2.
- Approval:** The Instructions to Bidders need no formal approval. Its contents have no substantial changes from one contract to another except for some administrative details. However, it needs to be cross-checked by a second Engineer before it is released.
- Filing:** The sole purpose of the Instructions to Bidders is to provide information to the bidders. It is not necessary for the bidders to return this document when submitting a bid. Equally, this document does not form any part of the contract agreement, once a contract has been awarded. For this reason, only one copy of this document should be filed as part of the original bidding documents prepared by the PIU, and made available during bid opening and evaluation sessions.

Technical Drawings

Technical Drawings for road construction works should contain three items:

- (i) drawings of standard cross-sections,
- (ii) road condition inventory describing the exact location of the quantities of work, and
- (iii) a location map.

If any deviations are made from the standard drawings, then additional drawings are required, preferably before the announcement of bids and latest before the commencement of works. These deviations shall be incorporated in the Bill of Quantities.

Major deviations from the standard drawings need written approval from the Project Management Office prior to Bid Announcement. Minor changes required during works implementation should be reported through the established physical progress reporting system, and reflected in the payment certificates.

It should also be noted that in addition to the above documents and the technical specifications, the RIIP Technical Manual also forms part of these contract documents and shall be used as a reference when the above mentioned documentation proves insufficient.

In any case, make sure that the Contractor on site, has sufficient copies of the Technical Manual and that it is readily available to the site supervision staff.

Bill of Quantities

- Purpose:** The Bill of Quantities forms the basis for cost estimating and pricing, as well as the breakdown of the major cost items in a works contract. Together with the Form of Bid, the BoQ provides (i) the price offered by the Bidder (ii) the detailed amounts of work expected from the Contractor for which the total price is based upon.
- Responsibility:** The Assistant Engineer is responsible for preparing the Bill of Quantities after completing a detailed field survey and preparing the road condition inventory. The form needs to be checked for accuracy by the Provincial Engineer.
- Timing:** The Bill of Quantities is prepared for every road works contract, as part of the bidding documents.
- Procedure:** The Bill of Quantities is based on the measured quantities from the road condition inventories, which are also included as part of the contract agreement. The activities listed in the Bill of Quantities are described in detail in the Technical Specifications. Although measured quantities actually carried out may vary from the original estimates, payments are based on the agreed rates in the Bill of Quantities. The following information should be entered by the Engineer:
- At first, basic information relating to Road Name, Contract Number, Province, Road Chainage and Date is entered at the top of the form.
- Item:** The Item Number refers to the appropriate reference number as defined in the Technical Specifications. Only enter activities for which volumes of work are expected. If one activity should be priced at more than one unit rate, sub-divide the activity.
- Description:** The Description of the activity should correspond to the standard description given to an item in the Technical Specifications.
- Unit:** Always use the unit of measurement mentioned in the Technical Specifications. Remember that the Unit should always be a measured output, *not* an input.
- Quantity:** Quantities are entered in totals for each activity, covering the entire contract. This information is obtained from the road condition inventories.
- The above information is provided by the Principal as part of the bidding documents. The remaining information is filled in by the Bidder:
- Rate:** The unit rates are the most important information submitted by the bidder as these form the basis for the final contract value. Also, despite changes in quantities during works implementation, the unit rates remain unchanged.
- Amount:** The amount is the product of the Quantity multiplied by the unit Rate for each activity.
- Sub-Total:** Sub-totals provide a summary cost of each operation or group of activities.
- Contingencies:** Contingencies are entered as a percentage of the above activities to cater for any deviations from the estimated quantities.
- Signature:** Finally, make sure that the BoQ is properly signed by the Bidder's authorised representative.
- Filing:** All bids received need to be properly filed for later auditing. The Bill of Quantities also forms part of the contract agreement with the most successful bidder.

Conditions of Contract

General and Specific Conditions of Contract

The General and Specific Conditions of Contract are standard documents which need no changes from one road works contract to another. They only contain general clauses, which relate to all road works contract. Any specifics relating to the conditions of contract are referred to and contained in the Appendix to Conditions of Contract - Contract Data. All three documents form part of the bidding documents as well as the final contract agreement.

Appendix to Conditions of Contract - Contract Data

- Responsibility:** The Assistant Engineer is responsible for preparing the Contract Data. This form needs to be checked for accuracy by the Provincial Engineer and the PIC Field Engineer.
- Timing:** The Contract Data Form is prepared for every contract as part of the bidding documents, and is also included in the final contract agreement.
- Procedure:** Key data, relating to the conditions under which a contract will be carried out, is contained in the Appendix to Conditions of Contract.
- At first, basic information relating to Contract Number, Contract Name and Province, is entered at the top of the form.
- Name of Contractor:** During the preparation of the bidding documents, this line is left open until the final evaluation and selection of the most successful bidder has been carried out.
- Commencement Date:** This date should indicate when the contractor should be ready to mobilise if awarded the contract. This implies that all the necessary resources in terms of labour, tools and equipment need to be made available from this date.
- Completion Date:** This is the date when all works are expected to be complete, given the above commencement date. These dates should correspond with the overall programme of works in the Province.
- Site Location:** Enter the exact location of the road works, i.e. name of villages where works starts and ends. If necessary also enter the exact chainage for the works.
- Retention:** Retention is normally fixed as a percentage of the interim payments. An appropriate level for road works is 15%.
- Currency of Payment:** Enter the currency in which payments are made. For this Project, US dollar is the convenient currency.
- Defects Liability Period:** The defects liability period is basically the guarantee period given by the Contractor. During this period, the Contractor will be responsible for repairing any defects which are uncovered and which are caused by sub-standard execution of works. As security, the Principal withholds half the retention monies during this period. 3 months is normally a sufficient defects liability period for road works.
- Minimum Amount of Interim Certificate:** To avoid processing payment certificates with unreasonable small amounts, enter a minimum value for interim payments.

- Time for Payment after Issue of Certificate** This is the maximum processing time for the Principal to process payments for completed works for which the Superintendent have issued a payment certificate.
- Payment Schedule:** The prescribed payment schedule regulates when the Contractor may claim payments for completed works, given that the amount for payment is more than the minimum mentioned above.
- Insurance:** The Contractor is responsible for providing appropriate insurance coverage of its employees and workers. This amount is the minimum amount for which each worker should be covered.
- Filing:** The Appendix to Conditions of Contract - Contract Data forms part of the bidding documents. All bids received needs to be properly filed for later auditing. Also, the Contract Data forms part of the contract agreement with the most successful bidder.

Form of Agreement

- Purpose:** The Form of Agreement provides the standard contract to be used when awarding a contract to the most successful bidder. During the bidding process, a sample of this document is issued as general information to the bidders. Bidders do not need to fill in any information in this Form when submitting a bid. This form is only filled out and issued to the Contractor for signature, once the bid evaluation has been approved by the project management.
- Responsibility:** The Assistant Engineer is responsible for preparing the bidding documents, including the Form of Agreement - only leaving the date and name of the Contractor open. It should be checked by the Provincial Engineer together with the other bidding documents to ensure that they have each been completed accurately, as well as being consistent with each other.
- Timing:** Since the Form of Agreement forms part of the bid documents, and after contract award is construed as part of the contract, it needs to be carefully checked for its accuracy before announcement of bids.
- Procedure:** The Form of Agreement is an essential part of the bidding documents, and should always be provided when inviting for bids. Make sure that the correct version of the Form of Agreement is supplied to the bidder, depending on the type of works (bridge works, road construction, laterite supply, etc.).
- The detailed information pertaining to a specific contract, which is prepared in advance of announcement of bids, is as follows:
- Contract No:** Establish a unique contract number for each contract. This number will be used as a reference for all related contract documents, correspondence and accounting activities.
- Contract Name:** Enter the location of the road construction works.
- Location:** Enter the location of the road construction works, i.e. name of villages from where the road starts and ends, as well as the name of the Province.
- After bid opening and evaluation, and final approval from the project management, the following information is entered:
- Date:** Enter the date of contract issue.
- Contractor:** Enter the full company name to which this contract is being awarded.
- Approval:** The Form of Agreement is signed by an authorised representative of the Contractor and the Provincial Project Manager in witness of the PIC Field Engineer. Make sure to obtain the signature of the Contractor within the period mentioned in Clause 32 of the Instructions to Bidders.
- Filing:** The Form of Agreement forms an essential part of the Contract Agreement with the most successful bidder, which needs to be filed as justification for payments of works and finally to be subject to the annual audit.

Evaluation of Bids

- Purpose:** The Evaluation of Bids Form provides a standard presentation of the findings of the Bid Evaluation Committee. Once completed, this form contains the conclusions and decisions of the provincial bid evaluation committee, which is then submitted to the Project Management Office for final approval, before a contract is awarded.
- Responsibility:** The Office Coordinator is responsible for preparing the Evaluation of Bids Form based on the findings of the bid evaluation committee. It needs to be checked for accuracy by the Provincial Engineer, referring to the bidding documents of the evaluated bids.
- Timing:** The Bid Evaluation Form should be prepared immediately during bid evaluation and checked and signed by all committee members at the end of the meeting.
- Procedure:** At first, basic information relating to Contract Number and Province is entered at the top of the form.
- Rating:** This number establishes the selection of the most successful bidder (No.1) and the relative rating provided to bids which were not rejected by the Committee.
- Company Name:** Enter the name of the selected Contractors in the order in which they were rated by the bid evaluation committee.
- Quotation:** Enter the quoted price of the respective bidders.
- Remarks:** Enter any specific information which is significant to the Contractor and the evaluation of its bid.
- Engineer's Estimate:** For comparison, enter the total value of the engineer's estimate for the contract. This figure should be prepared before bid opening and made available to the participants before the evaluation.
- Selection:** Repeat the full company name for the most successful bidder.
- Location:** Enter the exact location of the road works.
- Justification:** Provide the justification of the bid evaluation committee for the above mentioned selection and ranking of bids. If the allocated space in the Form is insufficient, enter additional information on the back of the form.
- Approval:** The Evaluation of Bids Form needs to be verified by the PIC Field Engineer and signed by the Provincial Project Manager. It is then submitted for final approval at the Project Management Office where it is approved by the National Project Manager, PIC Teamleader, Project Director and the Project Coordinator.
- Filing:** The Evaluation of Bids Form shall be accompanied by copies of the evaluated bids when it is submitted for final approval. The original bids are kept at the PIU until the contract has been completed. All received bids need to be filed, as they are part of the documents subject to auditing.

Payment Breakdown

- Purpose:** The Payment Breakdown form provides the basis information for the Interim Payment Certificates and the Certificate of Practical Completion. The payment certificates should always be accompanied with a Payment Breakdown, which provides a detailed record of the works completed and for which payment is now being processed.
- Responsibility:** The Engineer is responsible for preparing the Payment Breakdown after inspecting the completed works on site. This form needs to be checked for accuracy by the PIC Field Engineer.
- Timing:** The Payment Breakdown is prepared for every payment certificate for which the contractor submits an invoice.
- Procedure:** The Payment Breakdown is based on the Bill of Quantities, included in the contract agreement. Completed works are recorded in this form in order to calculate payments to the contractor. Payments are based on the agreed rates in the Bill of Quantities and the measured works completed by the contractor.
- At first, basic information relating to Road Name, Contract Number, Province, Certificate Number and Date is entered at the top of the form.
- Bill of Quantity:** In these three columns, enter the agreed quantities, rates and total amounts as specified in the Bill of Quantities in the Contract Agreement for each of the work activities.
- Previous Payments:** If any previous payments have been issued under this contract, enter the total quantities and amounts for which prior payments have been made for each of the activities listed. Remember that if several payments have already been done, this column should provide the total quantities and amounts previously paid.
- This Payment:** In the columns for Quantity and Amount under This Payment, enter the volume of works completed which is now due for payment, since the previous certificate. The correct amount for payment under each work activity is calculated by multiplying the measured quantity with the agreed rate from the Bill of Quantities.
- Total:** Summarise the amounts in the three columns Bill of Quantities, Previous Payments, and This Payment. Remember that the total amount under Bill of Quantities should correspond with the total contract value less contingencies, and total under Previous Payments should be equivalent to the sum of all previous payments under this contract. The total under This Payment is transferred to the payment certificate being the basis for which (i) payments are made and (ii) retention is calculated.
- Approval:** The Payment Breakdown is issued together with the payment certificate. The payment certificate needs to be signed by the Provincial Engineer, endorsed by the PIC Field Engineer and approved by the Provincial Project Manager.
- Filing:** The Payment Breakdowns are kept together with the payment certificates for which they act as supporting evidence.

Interim Payment Certificate for Road Works

- Purpose:** The purpose of this form is to certify payments of completed works for which a contractor has invoiced the project. The Interim Payment Certificate is based on the Payment Breakdown and previous payment certificates issued for a specific works contract.
- Responsibility:** The Provincial Engineer is responsible for preparing this certificate. It should only be prepared after the works for which the contractor claims have been inspected and found in good order, conforming to prescribed quality, and when the claimed quantities have actually been carried out.
- Timing:** Interim Payment Certificates are prepared on the request of the contractor, i.e. upon the receipt of a claim. However, a certificate should only be prepared if it conforms to the agreed payment schedule described in the Appendix to Condition of Contact - Contract Data form.
- Procedure:** A new payment certificate is prepared for each payment according to the agreed schedule. This form is accompanied with the Payment Breakdown, which acts as the detailed justification of the Payment Certificate.
- Enter basic data relating to the contract, i.e. Road Name, Contract Number, Province, Name and Address of Contractor, and agreed commencement and completion dates. All this information is found in the original contract agreement. Finally, enter the Certificate Number, which should correspond to the number of payments made to the contractor.
- 1) Invoice Amount is the total figure in the "This Payment" column of the Payment Breakdown form. Based on this figure and the total contract value, Percentage Completed can be calculated.
 - 2) The most common deduction is the retention monies. Retention is calculated from the invoice amount (1). If necessary, any other deductions which have not been entered in the Payment Breakdown, can be placed under Item (2).
 - 3) Total amount due for payment is then calculated by subtracting Deductions (2) from Invoice Amount (1).
 - 4) This item is mainly informative to keep track of all payments carried out so far. If any payments have been carried out before, the Amount Due of earlier payment certificates are entered here, and finally totalled up.
 - 5) Total Contract Value is the total amount of the contract including any amendments.
 - 6) Contract Balance is calculated by subtracting Total Amount Due (3) and Total Previous Payments (4) from Total Contract Value (5).
- Approval:** Before payments are carried out, this certificate needs to be signed by the Provincial Engineer, endorsed by the PIC Field Engineer and approved by the Provincial Project Manager.
- Filing:** The payment certificates are submitted to PMO at the end of the month together with the monthly accounts. A copy is also filed at PIU in a designated file for each contract.

Certificate of Practical Completion for Road Works

- Purpose:** The purpose of this form is to (i) carry out the payment of the last remaining works when a contractor submits a final invoice, (ii) process payment of half of the retention monies, and (iii) set the starting date for the Defects Liability Period.
- Responsibility:** The Provincial Engineer is responsible for preparing this certificate. It should only be prepared after the works for which the contractor claims have been inspected and found in good order, conforming to prescribed quality, and when the claimed quantities have actually been carried out.
- Timing:** The Certificate of Practical Completion is prepared on the request of the contractor, i.e. upon the receipt of the final claim.
- Procedure:** The Certificate of Practical Completion is prepared only once for any given contract and only when *all* works have been completed. This form is accompanied with the Payment Breakdown, which acts as the detailed justification of the Payment Certificate.

Enter basic data relating to the contract, i.e. Road Name, Contract Number, Province, Name and Address of Contractor. All this information is found in the original contract agreement. Finally, enter the Certificate Number, which should correspond to the number of payments made to the contractor.

- 1) Remaining Payment of Works is the total figure in the "This Payment" column of the Payment Breakdown Form.
- 2) If necessary, any deductions other than retention, which have not been entered in the Payment Breakdown, can be placed under Item (2).
- 3) Retention is calculated from the Remaining Payment of Works (1) less Deductions (2).
- 4) Balance of Remaining Payment can be obtained by subtracting deductions (2) and retention monies (3) from the Remaining Payment of Works (1).
- 5) Previous Paid Amounts is obtained from the previous payment certificates. The total of these payments includes all previous payments made to the contractor (less deductions).
- 6) Total Retention Monies is calculated as retention withheld from all previous payments (5) plus the retention of this payment (3).
- 7) Since this is the start of the defects liability period, only half of the total retention monies are withheld from this date. This implies that half of all retention withheld on previous payments as well as this payment should be returned to the Contractor. This is easily calculated from Item (6).
- 8) Total Amount Due is in this case the Balance of Remaining Payment (4) plus Return of 7.5% Retention (7).
- 9) For information and easy reference, the original contract value is entered here.
- 10) The remaining retention to be paid at the end of the defects liability period will be equivalent to Item (7). The duration of the defect liability period is found in the Appendix to Conditions of Contract - Contract Data. The date of the final payment of remaining retention is calculated from the date of the Certificate of Practical Completion plus the defects liability period.

Approval: Before payments are carried out, this certificate needs to be signed by the Provincial Engineer, endorsed by the PIC Field Engineer and approved by the Provincial Project Manager.

Filing: The Certificate of Practical Completion is submitted to PMO at the end of the month together with the monthly accounts. A copy is also filed at PIU in a designated file for each contract.

Final Certificate of Completion for Road Works

- Purpose:** The purpose of this form is to (i) confirm the end of the defects liability period and (ii) process payments of the remaining retention monies.
- Responsibility:** The Provincial Engineer is responsible for preparing this certificate. It should only be prepared at the end of the defects liability period after the works have been inspected on site and found in good order and conforming to prescribed quality.
- Timing:** The Final Certificate of Completion is prepared on the date of completion of the defects liability period as indicated in the Appendix to Conditions of Contract.
- Procedure:** The Final Certificate of Completion is prepared only once for any given contract and only after the defects liability period and final inspection.
- Enter basic data relating to the contract, i.e. Road Name, Contract Number, Province, Name and Address of Contractor. All this information is found in the original contract agreement. Finally, enter the Certificate Number, which should correspond to the number of payments made to the contractor.
- 1) Remaining Retention Monies Withheld is the amount of retention withheld during the Defects Liability Period. The exact amount of the remaining retention should correspond to the figure entered into the Practical Completion Certificate as Balance Due after Defects Liability Period.
 - 2) Deductions are entered for any deficiencies which the Superintendent has detected and the Contractor has failed to correct after receiving reasonable notice. It is important to note that the deductions entered in this form, are final and the Contractor shall have no further possibility to take any remedial action, nor receive any later payments.
 - 3) Total Amount Due is the Remaining Retention Monies Withheld, less any deductions. If the works have been completed to the full satisfaction of the Superintendent, this amount will be equal to the Remaining Retention Monies Withheld. Repeat the same figure, written in words.
 - 4) The date of practical completion is the date of issue of the Certificate of Practical Completion.
 - 5) Date of End of Defects Liability Period is calculated from the date of Practical Completion plus the defects liability period agreed in the Appendix to Conditions of Contract - Contract Data. If additional time is required to repair deficiencies as instructed by the Superintendent, this period may be extended, on the request of the Contractor.
- Approval:** Before payment is carried out, this certificate needs to be signed by the Provincial Engineer, endorsed by the PIC Field Engineer and approved by the Provincial Project Manager.
- Filing:** The Final Certificate of Completion is submitted to PMO at the end of the month together with the monthly accounts. A copy is also filed at PIU in a designated file for each contract.

Time Location Chart for Road Works

- Purpose:** The purpose of this form is to (i) present in detail the programme of works, and (ii) report progress as compared to the original work programme.
- Responsibility:** The Contractor is responsible for preparing this plan. It should be prepared immediately after contract award and revised when alterations have been agreed with the Superintendent.
- Timing:** Actual outputs of completed works are entered into the time location chart on a monthly basis.
- Procedure:** Enter basic data relating to the contract, i.e. Road Name and Number, Date and Province.
- Total Quant.:** Under total quantities, enter the planned total of earthworks and laterite surfacing which is covered by the contract. Next to the planned totals, enter the actual completed length of earthworks and laterite spreading.
- When starting up a new project/contract, enter the monthly planned outputs for earthworks and laterite spreading. After commencement of works, the actual monthly outputs are entered beneath the planned monthly targets for comparison.
- Percent Completion:** The last column of the spreadsheet calculates the overall completion rate of the earthwork and laterite operations, and is obtained by dividing the actual total outputs with the planned total outputs.
- Cumulative:** The first column of the cumulative data section, presents the planned total output up to the current month. The actual output in the next column is the total outputs since commencement of works.
- In the following columns, the planned outputs from above are presented as cumulative figures, showing the cumulative monthly totals for earthworks and laterite works. After commencement of works, the actual cumulative monthly outputs are entered beneath the planned monthly targets for comparison.
- Percent Progress:** Percent progress is an indicator of to what extent progress is according to the work plan. This figure is calculated by dividing the planned cumulative figures with the actual cumulative outputs for a given month.
- Time Location Graph:** Once all planned and actual figures have been entered into the form, these figures are used to create line graphs using the months (time) as the horizontal axis and the chainage (location) as the vertical axis. One line graph is prepared for each of the operations, as well as one line graph for planned figures and one for actual outputs.
- Bar Charts:** When utilising the Excel spreadsheet, a bar chart is automatically generated, based on the total figures entered above. This bar chart summarises the actual progress of the earthwork and laterite operations to the current date, and compares it with the planned progress to date as well as the total outputs expected when all works have been completed.
- Approval:** The work plan prepared by the Contractor needs to be approved by the PIU. Once it has been prepared by the Contractor, it should be reviewed and on approval of the PIU signed by the Provincial Engineer.
- Filing:** The work plan should be filed in a designated file for each road works contract at the PIU. A copy is submitted to PMO at the end of the month together with the monthly progress report.

Contract Register

- Purpose:** The Contract Register is intended to assist the Accountant and the Project Manager to monitor progress of contracts. This form should be used for both civil works contracts as well as supply contracts.
- Responsibility:** The Engineer is responsible for updating the Contracts Register every time a new payment certificate is issued.
- Timing:** One Contract Register form is used for each contract and is updated as the contract progresses, every time payments are made.
- Procedure:** For civil works contracts, the Contract Register is based on information obtained from the Interim Payment Certificate(s), the Certificate of Practical Completion and the Final Completion Certificate, depending on the progress of the contract.
- At the top of the form, enter basic information relating to Province, Name and Address of the Contractor/Supplier, Contract Date, Contract Number, Contract Value, Dates of commencement and completion of the contract and General Ledger Account Code. If the contract will be paid through the ADB commitment or direct payment procedure, enter the PCSS number issued by ADB.
- Reference Date:** Enter the date on which the Contract was issued. This date is found in the Contract Agreement.
- Ref. No:** Enter the contract number.
- Category:** Enter the full name of the contract including the name of the location of the work sites or to where the supplies are destined. Also include the budget category code.
- Invoice Amount:** Enter the payment request from the invoice submitted by the contractor. This amount should correspond to the total invoiced amount before any deductions for advances or retentions.
- Date:** Enter date of payment (ref. Payment Certificate).
- Amount:** Enter payment less deductions (ref. Payment Certificate).
- Contract Balance:** Contract Balance is calculated by subtracting the payments carried out so far, and any advance payments.
- Advances on Payment:** Enter any advance payments which were carried out at the start of the contract.
- Retention on Payment:** Enter the amount of retention deducted from the payment (ref. Payment Certificate)
- Posted on G/L:** Indicate by Yes or No whether it has been posted in the General Ledger.
- Approval:** This form needs no approval, however, it should be submitted to the Provincial Engineer for comparison with the related payment certificates.
- Filing:** The Contract Register is kept in a designated file. Copies should be submitted to the Project Management Office together with the monthly progress and expenditure reports.



Sample Documents

- 1 Invitation for Bids
- 2 Form of Bid
- 3 Instructions to Bidders
- 4 Technical Drawings
- 5 Bill of Quantities
- 6 Work Specifications for Road Construction
- 7 General Conditions of Contract
- 8 Special Conditions of Contract
- 9 Appendix to Conditions of Contract – Contract Data
- 10 Form of Agreement
- 11 Evaluation of Bids
- 12 Payment Breakdown
- 13 Interim Payment Certificate for Road Works
- 14 Certificate of Practical Completion of Road Works
- 15 Final Certificate of Completion for Road Works
- 16 Time Location Chart for Road Construction Works
- 17 Contract Register



INVITATION FOR BIDS FOR LABOUR-BASED ROAD WORKS

Date: _____

Province(s): _____

Contract No: _____

Loan No: 1385 - CAM (SF)

The Royal Government of Cambodia has received a loan from the Asian Development Bank (ADB) towards the cost of the Rural Infrastructure Improvement Project, and it is intended that part of the proceeds of this loan will be applied to eligible payments under the contract(s) for *road construction works applying labour-based work methods*.

The Ministry of Rural Development ("the Principal") invites sealed bids from prequalified eligible bidders for the construction of a _____ km laterite surfaced road from _____ to _____ (location(s)).

Bidders may obtain further information from, and inspect and acquire the bidding documents at the office of the Principal, at

Rural Infrastructure Improvement Project
Project Management Office
Ministry of Rural Development
corner of Road #169 and Soviet Boulevard
P.O.Box 136, Phnom Penh
Telephone 023 366 810, Fax 023 428 049

Project Implementation Unit
Provincial Department of Rural
Development or _____ Province
Telephone: _____

All bids must be delivered to the Project Implementation Unit in _____ Province before _____ hours on _____. Bids will be opened immediately thereafter in the presence of bidders representatives who choose to attend.

Provincial Project Manager
Rural Infrastructure Improvement Project



FORM OF BID

Contract Name: *Road Construction Works at*

No:

To: The Provincial Project Manager
Rural Infrastructure Improvement Project
Provincial Department of Rural Development
_____ Province

Gentlemen:

1. Having examined the Instructions to Bidders, Conditions of Contract, Specifications, Drawings, and Bill of Quantities for the execution of the above-named Works, we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the General and Special Conditions of Contract, Specifications, Drawings and Bill of Quantities for the sum of

(_____)

or such other sums as may be ascertained in accordance with the said Conditions.

2. We acknowledge that the Contract Data forms part of our bid.
3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonable possible after the receipt of the Principal's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract Data.
4. We agree to abide by this Bid for the period of *60 days* from the date fixed for receiving the same, and it shall remain binding upon us as may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ day of _____

Signature _____ in the capacity of _____

duly authorised to sign bids for and behalf of _____

Address: _____

_____ Phone: _____



INSTRUCTIONS TO BIDDERS

Labour-based Road Construction Works

1 Scope of Bid

- 1.1 The Ministry of Rural Development, (hereinafter referred to as the Principal), wishes to receive bids for *road construction works* from _____ to _____ executed under the Rural Infrastructure Improvement Project, as defined in these bidding documents (hereinafter referred to as the Works).
- 1.2 The successful bidder will be expected to complete the works within ____ weeks from the date of commencement of the Works.

2 Source of Funds

- 2.1 The Royal Government of Cambodia has received a loan from Asian Development Bank (hereinafter referred to as the ADB), towards the cost of the Rural Infrastructure Project and intends to apply part of the proceeds of this loan to eligible payments under the contract (hereinafter referred to as the Contract) for which the Invitation to Bid is issued. Payment by the ADB will be made only at the request of the Government of Cambodia and upon approval by the ADB in accordance with the Loan Agreement, and will be subject in all respects to the terms and conditions of that Agreement. Except as the ADB may specifically otherwise agree, no party other than the Government of Cambodia shall derive any rights from the Loan Agreement or have any rights to the loan proceeds.

3 Eligible Bidders

- 3.1 The Invitation to Bid is open to prequalified bidders meeting both of the following requirements:
- (a) a bidder (including all members of a bidder) shall be from an eligible source country as listed in Clause 5,
 - (b) a bidder (including all members of a joint venture and all subcontractors of a bidder) shall not be affiliated with a firm or entity which has provided consulting services during the preparatory stages of the Works of the project of which the Works form a part, and
 - (c) a bidder which has been certified or is currently in the process of being certified as a labour-based works Contractor.
- 3.2 Bidders shall provide such evidence of their eligibility satisfactory to the Principal as the Principal shall reasonably request.

4 Eligible Materials, Equipment and Services

- 4.1 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as defined in Clause 3.1 (a) above, and all expenditures made under the Contract will be limited to such materials and service. At the Principal's request, bidders may be required to provide evidence of the origin of materials, equipment, and services.
- 4.2 For purposes of Clause 4.1 above, "origin" means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing or substantial or major assembling of components, a commercially recognised product results that is substantially different in basic characteristics or in purpose or utility from its components.

5 Qualification of the Bidder

- 5.1 To be qualified for award of Contract, bidders shall in advance submit an Expression of Interest providing detailed information as requested by the Principal.
- 5.2 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements:
- (a) the bid, and in case of a successful bid, the form of Agreement, shall be signed so as to be legally binding on all partners;
 - (b) the partners shall be authorised to be in charge; and this authorisation shall be evidenced by submitting a power of attorney signed by legally authorised signatories of all the partners;
 - (c) the partners shall be authorised to incur liabilities and receive instructions for and on behalf of any or all partners of the joint venture and the entire execution of the Contract including payment shall be done exclusively with the partners in charge;
 - (d) all partners of the joint venture shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorisation mentioned under (b) above as well as in the Bid Form and the Form of Agreement (in case of a successful bid); and
 - (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid.
- 5.3 Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the bidders' proposals to meet the technical specifications and the completion time referred to in Sub-Clause 1.2 above.

6 One Bid per Bidder

- 6.1 Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid will be disqualified.

7 Cost of Bidding

- 7.1 The bidder shall bear all costs associated with the preparation and submission of his bid and the Principal will in no case be responsible or liable for those costs.

8 Site Visit

- 8.1 The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.
- 8.2 The bidder and any of his personnel or agents will be granted permission by the Principal to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidder, his personnel and agents, will release and indemnify the Principal and his personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.

9 Content of Bidding Documents

- 9.1 The bidding documents are those stated below, and should be read in conjunction with any Addenda issued in accordance with Clause 11:

Invitation for Bids
Instruction to Bidders
Condition of Contract
Contract Data
Technical Specifications
Form of Bid and List of Eligible Member Countries of ADB

Bill of Quantities
Sample Form of Agreement
Drawings
Location Map

- 9.2 The bidder is expected to examine carefully the contents of the Bidding documents. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Pursuant to Clause 26, bids which are not substantially responsive to the requirements of the bidding documents will be rejected.

10 Clarification of Bidding Documents

- 10.1 A prospective bidder requiring any clarification of the bidding documents may notify the Principal in writing or by cable (hereinafter, the term "cable" is deemed to include telex and facsimile) at the Principal's address indicated in the Invitation for Bids. The Principal will respond to any request for clarification which he receives earlier than 3 days prior to the deadline for submission of bids. Copies of the Principal's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry.

11 Amendment of Bidding Documents

- 11.1 At any time prior to the deadline for submission of bids, the Principal may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addenda.
- 11.2 Any addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause 9.1, and shall be communicated in writing or by cable to all purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum by cable to the Principal.
- 11.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Principal may extend the deadline for submission of bids, in accordance with Clause 20.

12 Language of the Bid

- 12.1 The bid, and all correspondence and documents, related to the bid, exchanged between the bidder and the Principal shall be written in the English language. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language, in which case, for purposes of interpretation of the bid the English translation shall prevail.

13 Documents Comprising the Bid

- 13.1 The bid submitted by the bidder shall comprise the following: Bid Form and priced Bill of Quantities; the information on eligibility and qualification; and any other materials required to be completed and submitted by bidders in accordance with these Instructions to Bidders including those mentioned in Clause 5.
- 13.2 Bidders bidding for this Contract together with other contracts to form a package, will so indicate in the Form of Bid, together with any discounts offered for the award of more than one contract.

14 Bid Prices

- 14.1 Unless stated otherwise in the bidding documents, the Contract shall be for the whole Works as described in Sub-Clause 1.1, based on the schedule of unit rates and prices submitted by the bidder.
- 14.2 The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities.

14.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, shall be included in the rates and prices and the total bid price submitted by the bidder, and the evaluation and comparison of bids by the Principal shall be made accordingly.

14.4 The rates and prices quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment.

15 Currencies of Bid and Payment

15.1 The unit rates and the prices shall be quoted by the bidder entirely in United States Dollars.

16 Bid Validity

16.1 Bids shall remain valid for a period of *60 days* after the date of bid opening specified in Clause 23.

16.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Principal may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by cable.

17 Alternative Proposals by Bidders

17.1 Bidders shall submit offers which comply with the documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered. The attention of bidders is drawn to the provisions of Clause 26 regarding the rejection of bids which are not substantially responsive to the requirements of the bidding documents.

18 Format and Signing of Bid

18.1 The bidder shall prepare one original of the Bid documents comprising the bid as described in Clause 13, bound with the volume containing the Form of Bid.

18.2 The bid shall be typed or written in indelible ink (in the case of copies, photocopies are also acceptable) and shall be signed by a person or persons duly authorised to sign on behalf of the bidder, pursuant to Sub-Clause 5.2 (c), as the case may be. All pages of the bid where entries or amendments have been made shall be initialled by the person or persons signing the bid.

18.3 The bid shall contain no alteration, omissions or additions, except those to comply with instructions issued by the Principal, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

19 Sealing and Marking of Bids

19.1 The bidder shall seal the bid in a inner and an outer envelope.

19.2 The inner and outer envelopes shall be addressed to the Principal at the following address:

Rural Infrastructure Improvement Project
Project Implementation Unit
Provincial Department of Rural Development
_____ Province

and bear the following identification:

Bid for *Road Construction Works*
Loan No: 1385 - CAM (SF), Contract No: _____
DO NOT OPEN BEFORE _____ *[time and date for bid opening]*

19.3 In addition to the identification required in Sub-Clause 19.2, the inner envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to Clause 21.

19.4 If the envelope is not sealed and marked as above, the Principal will assume no responsibility for the misplacement or premature opening of the bid.

20 Deadline for Submission of Bids

20.1 Bids must be received by the Principal at the address specified above no later than the date mentioned in the Invitation to Bid.

20.2 The Principal may, at his discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause 11, in which case all rights and obligations of the Principal and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

21 Late Bids

21.1 Any bid received by the Principal after the deadline for submission of bids prescribed in Clause 20 will be rejected and returned unopened to the bidder.

22 Modification of Bids

22.1 The bidder may modify his bid after bid submission, provided that written notice of the modification is received by the Principal prior to the deadline for submission of bids.

22.2 The bidder's modification notice shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 19, with the outer and inner envelopes additionally marked "MODIFICATION".

22.3 No bid may be modified by the bidder after the deadline for submission of bids.

23 Bid Opening

23.1 The Principal will open the bids, including modifications made pursuant to Clause 22, in the presence of bidders' representative who choose to attend, at the time mentioned in the Invitation to Bid at the following location:

Rural Infrastructure Improvement Project
Project Implementation Unit
Provincial Department of Rural Development
_____ Province

The bidders' representatives who are present shall sign a register evidencing their attendance.

23.2 The bidder's names, the Bid Prices, the total amount of each bid, any discounts, bid modifications and such other details as the Principal may consider appropriate, will be announced and recorded by the Principal at the opening. Any bid price or discount which is not read out and recorded at bid opening will not be taken into account in bid evaluation. The record of the meeting must include the signatures of bidders' representatives and representatives of the Principal.

23.3 The Principal shall prepare, besides the record of bid opening, the minutes of the bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.2.

24 Process to Be Confidential

24.1 Information relating to the examination, clarification, evaluation and comparison of bids

and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Principal's processing of bids or award decisions may result in the rejection of the bidder's bid.

25 Clarification of Bids

- 25.1 To assist in the examination, evaluation and comparison of bids, the Principal may, at his discretion, ask any bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Principal in the evaluation of the bids in accordance with Clause 27.

26 Preliminary Examination of Bids and Determination of Responsiveness

- 26.1 Prior to the detailed evaluation of bids, the Principal will determine whether each bid (i) meets the eligibility criteria of the ADB; (ii) has been properly signed; (iii) is accompanied by the required securities; (iv) is substantially responsive to the requirements of the bidding documents; and (v) provides any clarification and/or substantiation that the Principal may require pursuant to Sub-Clause 25.1.
- 26.2 A substantially responsive bid is one which conforms to all the terms, conditions and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (i) which affects in any substantial way the scope, quality or performance of the Works; (ii) which limits in any substantial way, inconsistent with the bidding documents, the Principal's rights or the bidder's obligations under the Contract; or (iii) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 26.3 If a bid is not substantially responsive, it will be rejected by the Principal, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27 Correction of Errors

- 27.1 Bids determined to be substantially responsive will be checked by the Principal for any arithmetic errors. Arithmetic errors will be rectified on the following basis. If there is a discrepancy between the unit rate and the total cost that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost will be corrected unless in the opinion of the Principal there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of total costs, the sum of the total costs shall prevail and the total bid amount will be corrected.
- 27.2 The amount stated in the Form of Bid will be adjusted by the Principal in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, his bid will be rejected.

28 Evaluation and Comparison of Bids

- 28.1 The Principal will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 26.
- 28.2 In evaluating the bids, the Principal will determine for each bid the Evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause 27;
 - (b) applying any discounts offered by the bidder for the award of more than one contract;

- (c) making an appropriate adjustment for any other acceptable variations or deviations.

- 28.3 The Principal reserves the right to accept or reject any variation or deviation. Variations, deviations and other factors which are in excess of the requirements of the bidding documents or otherwise result in the accrual of unsolicited benefits to the Principal shall not be taken into account in bid evaluation.
- 28.4 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 28.5 If the bid of the successful bidder is seriously unbalanced in relation to or substantially below the Principal's estimate of the cost of work to be performed under the Contract, the Principal may require the bidder to produce detailed price analyses for any or all items of the Bill of Quantities to demonstrate the internal consistency of those prices with the construction methods and schedule proposed.

29 Award of Contract

- 29.1 Subject to Clause 30, the Principal will award the contract to the bidder whose bid has been determined to be substantially responsive the bidding documents and who has offered the lowest Evaluated Bid Price, provided that such bidder has been determined to be (i) eligible in accordance with the provisions of Sub-Clause 3.1; (ii) qualified in accordance with the provisions of Clause 5; and (iii) is within reasonable proximity to the Engineer's estimate.

30 Principal's Right to Accept any Bid and to Reject any or all Bids

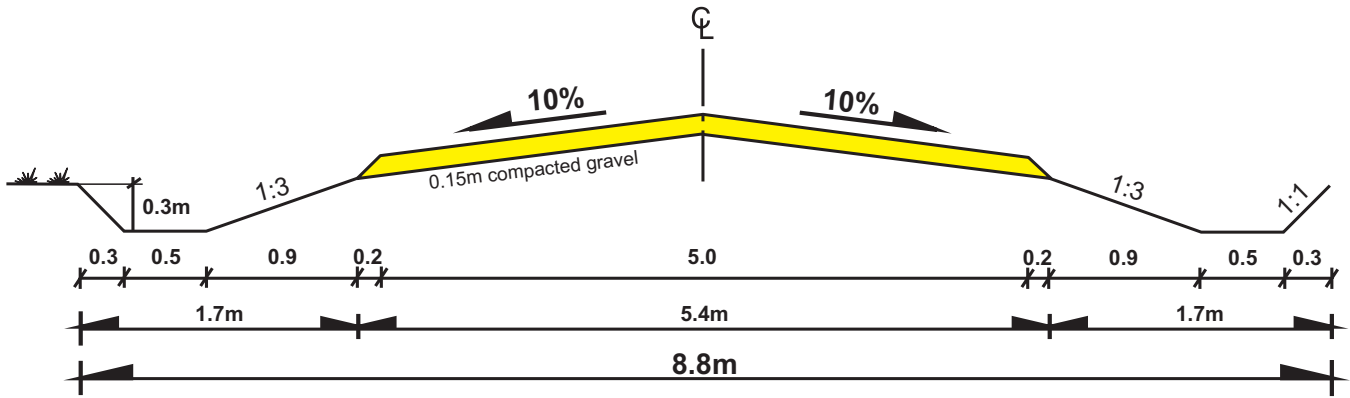
- 30.1 Notwithstanding, the Principal reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the Principal's action.

31 Notification of Award

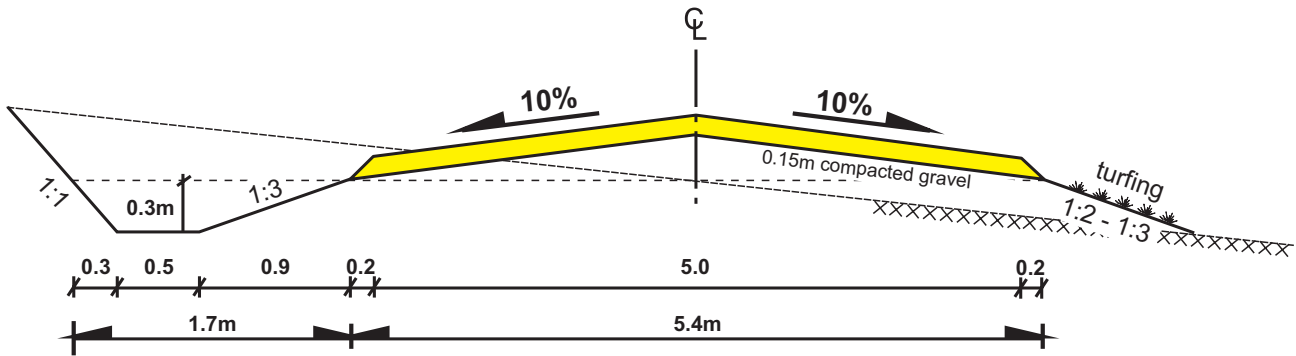
- 31.1 Prior to expiration of the period of bid validity prescribed by the Principal, the Principal will notify the successful bidder by cable, by registered letter or delivered by courier that his bid has been accepted. This letter shall name the sum which the Principal will pay the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract.
- 31.2 The notification of award will constitute the formation of the Contract.

32 Signing of Agreement

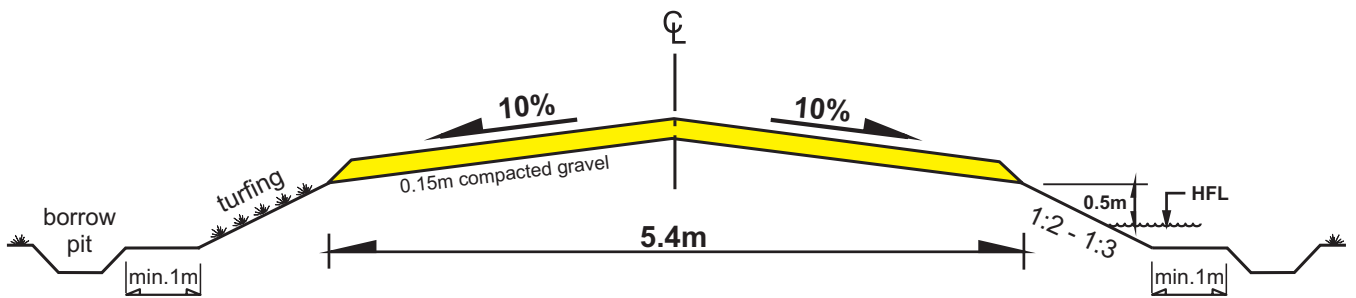
- 32.1 At the same time that he notifies the successful bidder that his bid has been accepted, the Principal will send the bidder the Form of Agreement provided in the bidding documents, incorporating all agreements between the parties.
- 32.2 Within 3 days of receipt of the Form of Agreement, the successful bidder shall sign the Form and return it to the Principal.



Type 1 Cross Section



Type 2 Cross Section



Type 3 Cross Section

Notes:

1. Cross sections may be modified to suit specific site conditions, subject to approval of the site engineer.
2. Side slopes are indicative and should be determined on the basis of prevalent soil conditions.
3. Embankments are to be built in layers of maximum 0.15m thickness, and compacted at optimal moisture content.

Ministry of Rural Development
Rural Infrastructure Improvement Project

Standard Cross Sections for Rural Roads

Prepared by:
Bjørn Johannessen
Engineering Consultant

Approved by:
Toun Sophal
Project Manager

Revision Date: 8 June 1999

Not to Scale



Kingdom of Cambodia
Ministry of Rural Development
Rural Infrastructure Improvement Project
ADB Loan No. 1385 - CAM (SF)



BILL OF QUANTITIES

Road Name:

Contract No.

Province:

Chainage:

Date:

Item	Description	Unit	Quantity	Rate	Amount
A10	Setting up of camp at construction site	sum	1		
A11	Site security	wd			
A12	Provision of Insurances	sum	1		
A13	Signboards	no.	2		
A20	Removal of Camp	sum	1		
Sub-Total					0
B10	Setting out alignment	m			
B20	Clear site of grass and light bush	m ²			
B30	Grubbing and stump removal	m ²			
B40	Topsoil removal	m ²			
B50	Remove unsuitable material at a depth exceeding 150mm	m ³			
B60	Tree felling and removal	no.			
Sub-Total					0.00
C10	Excavate, break and remove boulders	m ³			
C20	Excavate side drain to form and compact camber in soils	m ³			
C21	Excavate side drain in weathered rock	m ³			
C30	Excavate, haul, place and compact materials < 200m	m ³			
C40	Construct scour checks	no.			
C50	Construct mitre and catch-water drains	m			
Sub-Total					0.00
D10	Reshape earthworks camber	m			
D20	Spread, shape and compact laterite	m ³			
Sub-Total					0.00
E10	Turfing	m ²			
E20	Tree planting	no.			
Sub-Total					0.00

Total		0.00
Contingencies	10%	0.00

GRAND TOTAL	0.00
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Bidder's Signature



WORKS SPECIFICATIONS FOR ROAD CONSTRUCTION

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I GENERAL

Preamble

The Works specified under this contract shall include:

- preparatory and general works, materials and work of any kind necessary for the due and satisfactory construction, completion and maintenance of the works to the intent and meaning of the Drawings and this Specification and any further drawings and orders that may be issued by the Superintendent;
- compliance by the Contractor with all Conditions of Contract, whether specifically mentioned or not in this Specification;
- all materials, apparatus, plant, machinery, tools, fuel, water, strutting, timbering, and tackle of every description; transport, offices, stores, workshops, staff, labour;
- the provision of proper and sufficient protective works, temporary fencing, lighting, and watching required for the safety of the Public and the protection of the works and adjoining land;
- the provision and maintenance of first aid equipment, sanitary accommodation for the staff and workmen;
- the effecting and maintenance of all insurance, the payment of wages, salaries, fees, royalties, duties or other charges;
- the clearance of rubbish, reinstatement and clearing up and leaving the site in good condition.

Extent of Contract

The Works to be executed under the Contract comprise the improvement or new construction of new or existing earth and gravel surfaced roads. Generally, the works comprise the following:

- (a) Maintenance of existing roads and passing of traffic through the Works. Where deviations are unavoidable, the construction and maintenance thereof.
- (b) Earthworks: The locations and extent of earthwork requirements, including reshaping of the road body and drainage system as well as raising current levels of embankments, as prescribed in the standard drawings, design estimates and Bill of Quantities, or identified by the Superintendent in the course of the works.
- (c) Construction of a gravel wearing course.
- (d) Repairs and reconstruction of existing surface water drainage facilities and protection works.
- (e) Repairs to existing road furniture and the provision and erection of a limited amount of new road furniture.

These Specifications are written on the basis that the Works shall be constructed using a labour-based (light equipment supported) technology. The Contractor will be expected to maximise the use of labour for all operations where it can be effectively used to attain the required standards.

To comply with the construction standards required using labour-based technology, the Contractor will be expected to make extensive use of a variety of setting out and other construction aids. These shall include:

- ranging rods
- profile boards
- pegs and string lines
- line levels
- ditch templates

The Contractor shall set out, using pegs and string lines, the various construction operations in sufficient detail to ensure that the required standards and tolerances are achieved, and in such a way that any task work system adopted may be easily checked by the Superintendent.

Drawings

The drawings referred to in the contract document are the standard cross sections of the road.

The MRD publication "Technical Manual for Labour-based Road Construction Methods" shall be construed to form a part of these specifications, and shall be referred to for any item not covered in this Works Specification. The Principal shall provide the Contractor with sufficient copies of the Manual for this purpose.

Typical Cross Section

The "Standard Cross Sections" given in the drawings are provided as a guide only. The locations and extent of works to be undertaken will be ordered by the Superintendent on site.

Provision of Land

The Principal shall make available free of charge to the Contractor all land on which the works are to be executed or carried out; all as indicated on the Drawings or as detailed in this Specification. Such land shall include the road reserve, road deviations, borrow pits outside of the road reserve and access roads thereto but shall exclude any land required by the Contractor for his own camps, offices, houses, other temporary works or any other purpose.

The Contractor shall be responsible for the payment of compensation for crops, structures and any other costs in respect of land temporarily acquired, including the Contractor's spoil areas outside of the road reserve, work areas outside of the road reserve for camps, offices, temporary works, etc. The Contractor should allow in his rates for making such compensation payments for land temporarily acquired as no separate payment will be made.

Programme of Work

The programme of work required in terms of the Special Conditions of Contract shall be submitted to the Superintendent not later than 15 days after the issuing the Contractor the Notification of Award.

The programme shall be in the form of a time/location chart and shall clearly show the anticipated quantities of work to be performed each month, as well as a plan of labour inputs over the programme period. The contractor should update the programme each month. However, in cases where quantities fall substantially below targets, the Superintendent may request the contractor to submit a revised programme within 7 days.

If the programme is to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing the modifications to the original programme necessary to ensure completion of the works or any part thereof

within the time for completion as defined in the Appendix to Conditions of Contract or any extended time granted pursuant to Clause 17 of the Conditions of Contract. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to work according to the programme or revised programmes, shall be sufficient reason for the Principal to take steps as provided for in the Conditions of Contract and shall be construed, as not executing the Works in accordance with the contract.

The approval by the Superintendent of any programme shall have no contractual significance other than that the Superintendent would be satisfied if the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme, nor shall it limit the right of the Superintendent to instruct the Contractor to vary the programme should circumstances make this necessary. The above shall not be taken to limit the right of the Contractor to claim for damages or extension of the time to which he may be fairly entitled to in terms of Conditions of Contract for delay or disruption of his activities.

Should the Principal request and the Contractor undertake to finish the whole or part of the Works ahead of the time originally required by the Contract, payment for accelerating the work shall only be made if agreed to beforehand in writing and according to the terms of such agreement.

Workmanship and Quality Control

The onus rests on the Contractor to produce work which complies in quality and accuracy of detail with the requirements of the Specifications and Drawings. The Contractor must, at his own expense, institute a quality control system and provide experienced and qualified engineers, foremen, surveyors, technicians and other technical staff, together with all transport, instruments and equipment, to ensure adequate supervision and positive control of the works at all times. The Contractor must provide assistance and labourers for the Superintendent to carry out checks on the works.

The costs of all supervision and process control, including testing carried out by the Contractor, shall be deemed to be included in the rates tendered for the related items of work except that the cost of certain tests and the provision of certain items of testing and sampling equipment will be paid for separately as provided for in those sections of the Specifications where this applies.

The Contractor shall submit to the Superintendent the results of all relevant tests, measurements and levels indicating compliance with the Specifications on completion of every part of the work and submission thereof to the Superintendent for examination.

Signboards

The Contractor shall provide, erect and maintain at least two sign boards per road in a format acceptable to the Superintendent. Each sign shall be of no less than 2 m² area and comprise white lettering on a blue background. The following information should be given on each sign:

- Project Title (Rural Infrastructure Improvement Project)
- Name of Responsible Ministry (Ministry of Rural Development)
- Name of Funding Agency (Asian Development Bank)
- Name of Project Implementation Consultant (I.T. Transport Co. Ltd.)
- Contractor's Name

These signboards shall be erected at locations to be selected by the Superintendent.

The signs are to be erected as the Contractor commences work on a particular Project road. The Contractor shall be responsible for removing the sign at the end of the Defects Liability Period.

Erection of Site Camp

A proper camp shall be established at the construction site. The size and location of the camp must be agreed with the Superintendent before any activities are commenced regarding the camp establishment. The areas for parking and camp structures must be levelled. A stores building with a surface of 20-50 m² shall be provided for the Contractor's hand tools and materials. The store must be constructed in such a way that daylight can provide sufficient light inside the building. The surface material under the store shall be of good quality which keeps dry and hard. Suitable shelves shall be erected in the stores for cement and other materials to be protected from the humidity on the ground.

Removal of Site Camp

Upon completion of the Contract, and after receiving approval in writing from the Superintendent, the Contractor shall take down and remove all structures forming part of his own camp, yard and workshops including removal of all drains and culverts, back-filling of trenches, filling of pit latrines, etc. and shall restore the site, as far as practicable, to its original condition and leave it neat and tidy.

Liaison with Government Officials

The Contractor shall maintain close contact with the police and other local officials of the area regarding their requirements as to the control of traffic and other matters and shall provide all assistance or facilities which may be required by such officials in the execution of their duties.

Maintenance of Traffic

Throughout the duration of the Contract, traffic shall be maintained over a reasonable smooth travelled way which shall be marked in such a manner that any person who has no knowledge of the conditions may safely and with a minimum of inconvenience and discomfort, drive or walk, day or night, over all or any portion of the road under construction - provided that such a section of the road was passable to traffic prior to the Contractor having taken possession of the site.

Unless approval in writing has been obtained from the Superintendent, no road shall be closed to traffic or public access.

Temporary Works

The Contractor shall allow in his rates where appropriate, for provision and maintenance of any temporary works including structures and deviations, and for the provision, erection and maintenance of the road signs for the safe passage of traffic during construction of the road and ancillary works.

Unless provided for separately the accommodation of traffic shall be included in the general rates except that any detours required and instructed by the Superintendent shall be paid for under the appropriate items in the Bills of Quantities.

Land Compensation

The Contractor shall not take possession of the site, nor enter any land or commence any operations until such time as he receives formal confirmation from the Superintendent. Should the Contractor enter land or commence any operations without first obtaining this confirmation he shall be solely liable for all additional costs and/or legal charges which

might arise there from.

The Principal shall be responsible for the assessment and reimbursement of payment of compensation (if any) in respect of land to be permanently acquired and incorporated in the works within the road reserve, together with all buildings, crops, trees and any other properties so defined from the land.

The Contractor shall be responsible for payment of compensation in respect of land temporarily acquired, Contractor's spoil areas and working areas, sites for Contractor's accommodation, and land acquired for laterite quarries.

Measurement

(a) Units of measurements

All work shall be measured in accordance with the S.I. System of metric units.

(b) Bill of Quantities

The quantities set out in the Bill of Quantities are estimated quantities and are used for the comparison of Tenders and awarding the Contract. It must be clearly understood that only the actual quantities of work completed or materials supplied will be measured for payment, and that the billed quantities may be increased or decreased as provided for in the Conditions of Contract.

(c) Measurement of completed work

- (i) All distances along the centre line of the road as shown on the Drawings are horizontal distances and these distances will be used in calculating the quantities of fill, sub-bases, shoulders and surfacing for payment purposes. All cross sections shall be taken in vertical plane.
- (ii) All material which are specified to be measured in the vehicle shall be hauled on vehicles of such type and size that the actual contents may be readily and accurately determined. Unless all vehicles are of uniform capacity, each vehicle shall bear a plainly legible identification mark indicating its specific capacity.

(d) The contractor should allow in his rates for compliance with all requirements of this Specification for which separate payment is not made under the Contract.

Payment

(a) Contract rates

In computing the final contract amount, payments shall be based on actual quantities only of authorised work done in accordance with the Specifications and Drawings. The tendered rates shall apply, subject to the provisions of the Conditions of Contract, irrespective of whether the actual quantities are more or less than the billed quantities.

(b) Prices to be inclusive

The Contractor shall accept the payment provided in the Contract and represented by the prices tendered by him in the Bill of Quantities, as payment in full for executing and completing the work as specified, for procuring and furnishing all materials, labour, supervision, plant, tools and equipment, for wastage, transport, loading, off loading, handling, maintenance, temporary work, testing, quality control including process control, overheads, profit, risk and other obligations and for all other

incidentals necessary for the completion of the works and maintenance during the Construction Period.

This Clause shall be applicable in full to all pay items except as these requirements may be specifically amended in each case.

(c) meaning of certain phrases in payment clauses.

(i) where any of the words "supply", "procure" or "furnish" (material) are used in the description of a pay item it shall mean the supply and delivery to the point of use of all materials of any kind required for the work covered by the particular pay items, including all tax, (unless otherwise notified by the Superintendent) purchase costs, claims, damages, royalties and transport costs involved excluding overhaul. In the case of laterite, stone and sand, it shall also include all negotiations with owners concerned, royalties, excavating, producing, preparing, processing, testing, hauling and delivering the material to the point of use; the construction, repair, maintenance and making good after completion of all access roads, and all work required in opening, using and finishing borrow pits to ensure that soil and water from these do not interfere with the adjacent road or give rise to erosion more generally and in all respects do not have un-aesthetic appearances, which is not covered by other pay items in the Bill of Quantities.

(ii) "Placing material"

The phrase "placing material" shall mean the off-loading, spreading, blending, processing, watering, mixing, shaping and compacting (where specified) the material in the road prism as procuring, furnishing, applying and mixing of water; breaking down oversize material, removing which cannot be broken down, correcting irregular or uneven surfaces or deficient thickness, finishing off to within the specified tolerances, refilling test holes and maintaining the completed work.

(d) Pay items

The descriptions under the pay items in the various sections of the Specifications, indicating the work to be allowed for in the tendered prices for such pay items, are for the guidance of the Contractor and do not necessarily repeat all the details of work and materials required by and described in the Specifications.

These descriptions shall be read in conjunction with the relevant Specifications and Drawings and the Contractor shall, when tendering, allow for his prices to be inclusive as specified in Sub-clause (b) above.

(e) Materials on Site

Payment for materials on site will be authorised only upon submission of documented proof that ownership of the material is vested in the Contractor, either in the form of receipted Invoices or in the form of a certificate from the supplier to that effect.

Unless otherwise stated in the Special Conditions of Contract, the payments for materials on site will be for 60% of the value of such material.

Specifications

The following Specifications issued by widely recognised bodies are referred to in this Specification:

BS	British Standard
AASHTO	American Association of State Highway and Transportation officials

II PAY ITEMS

The item numbers used in this section corresponds to those used in the bills of quantities.

A PRELIMINARIES

A.10 SETTING UP CAMP

Description of Work

Set up an appropriate camp at the construction site and maintain it throughout the construction period.

Execution of Work

The Contractor shall establish his construction camp on the Site. This will include all accommodation, sanitary conveniences, plant stores, materials stores, etc. The works comprise the establishment of a store and office buildings for the site management, shelter for watchman and a pit latrine - all as described under GENERAL in this Specification.

The Contractor shall move all necessary plant and personnel to the Site preparatory to starting work.

Necessary steps shall also be taken to comply with the terms in the Conditions of Contract, particularly in respect of the insurances and indemnities required.

Measurement and Payment

The payment shall be made as a lump sum payment payable only once, when the camp is installed to the satisfaction of the Superintendent.

A.20 REMOVAL OF CAMP

Description of Work

Remove the camp after completion of the contract.

Execution of Work

The removal shall be carried out as described under GENERAL in this Specification.

Measurement and Payment

The payment shall be made as a lump sum payment payable only once, when the camp is removed to the satisfaction of the Superintendent.

B SETTING OUT AND SITE CLEARING

B.10 SETTING OUT HORIZONTAL AND VERTICAL ALIGNMENT

Description of Work

Setting out the horizontal alignment and elevation levels shall consist of the provision and placement of ranging rods and profile boards to determine the exact alignment of the road. The ranging rods and profile boards shall be of good quality metal and their finish of such a standard that they can be used for good and correct setting out. The setting out shall include vertical as well as horizontal alignment. The contractor shall ensure that the setting out is maintained for the entire period required to achieve the dimensions of the road according to the drawings.

Execution of Work

Setting out of alignment shall be carried out following the instructions of the Superintendent. The setting out shall ensure that the dimensions of the road are according to the drawings and shall be maintained by the contractor for the time required to complete the works.

Both alignments shall follow as closely as appropriate to the existing terrain and road lines and they shall be established by pegging the centre line, edge of carriageway and ditch lines. Reference pegs shall be provided at intervals outside the roadway to allow for the reestablishment of the alignment during construction. Chainage shall be clearly marked on pegs at not less than 100 metre intervals.

The Contractor shall set out, using pegs and string lines, the various construction operations in sufficient detail to ensure that the required standards and tolerances are achieved, and in such a way that any task work system adopted may be easily checked by the Superintendent.

Measurement and Payment

The unit of measurement for setting out is the metre (m). The quantity shall be measured as the length of the road section where setting out has been carried out.

No extra payment shall be made for the re-placement of pegs, profile boards or any other setting out materials which are removed from the site prior to instructions of the Superintendent.

B.20 CLEAR SITE OF GRASS AND BUSH INCLUDING TREES AND CLEAR AWAY

Description of Work

Clearing shall consist of the removal of trees, bushes, other vegetation, rubbish, defunct structures and all other superfluous material including the disposal of all material resulting of the grubbing. Clearing shall not include removal of boulders covered under C.10.

The road alignment shall be adjusted where possible to minimise the destruction of trees and no tree of more than 0.5 metre girth shall be cut without the approval of the Superintendent. All debris shall be stored and disposed of in a manner acceptable to the Superintendent.

Execution of Work

Areas to be cleared: The portions of the road reserve that fall within the limits of the road prism, as well as borrow areas shall be cleared. The Superintendent shall designate the

areas to be cleared and such areas to be cleared shall not necessarily be limited to those mentioned above.

No clearing shall be done other than on written instructions of the Superintendent who shall designate in detail the exact areas to be cleared and the time at which it shall be done. The Contractor shall note that in order to avoid re-clearing, the clearing may have to be done at the last practicable stage of construction.

The clearing shall be done by means of labour and appropriate hand tools. No extra payment will be made for haulage in connection with clearing.

Measurement and Payment

The unit of measurement for clearing is square metres (m²). The quantity shall be taken as the area in square meters designated by the Superintendent, and cleared in accordance with these specifications.

All cleared material shall, unless otherwise provided for in the Contract, be the property of the Principal.

B.30 GRUBBING AND REMOVAL OF STUMPS AND ROOTS

Description of Work

All stumps and roots larger than 75 mm in diameter shall be removed to a depth of not less than 600 mm below the finished road level and a minimum of 75 mm below original ground level. Where the road bed has to be compacted, all stumps and roots including matted roots shall be removed to a depth of at least 200 mm below the cleared surface. Except at borrow areas the cavities resulting from the grubbing shall be back-filled with approved material and compacted to a density not less than the surrounding ground.

Execution of Work

Areas to be grubbed: The portions of the road reserve that fall within the limits of the road prism, as well as certain borrow areas. The Superintendent shall designate the areas to be cleared and such areas shall not necessarily be limited to those mentioned above.

No grubbing shall be done other than on written instructions of the Superintendent who shall designate in detail the exact areas to be grubbed and the time at which it shall be done.

Measurement and Payment

The unit of measurement for grubbing is square metres (m²). The quantity shall be taken as the area in square meters designated by the Superintendent and grubbed in accordance with these specifications.

The tendered rate shall include full compensation for all work necessary for the removal and grubbing of trees and tree stumps, cutting of branches, back-filling of cavities, demolishing and disposal of structures except when elsewhere provided for, and the removal, transporting and disposal of material all as specified in this section.

B.40 REMOVE TOPSOIL TO A MAXIMUM DEPTH OF 150 MM

Description of Work

Remove topsoil (to a maximum depth of 150mm) which is not suitable for road base use.

Execution of Work

Written approval from the Superintendent shall be obtained to carry out this activity in any location. The topsoil to be removed shall be deposited in a suitable location and consideration shall be given to reuse the topsoil to cover side slopes, etc., while carrying out finishing works towards the end of the construction of the road.

Measurement and Payment

The unit of measurement for removal of topsoil is square metres (m²).

B.50 REMOVE UNSUITABLE MATERIALS AT DEPTHS EXCEEDING 150 MM

Description of Work

If unsuitable material is encountered at or below subgrade level in cut areas or at or below embankment foundation level in fill areas, it shall be excavated to limits as directed by the Superintendent and be back-filled with suitable materials in accordance to instructions provided by the Superintendent

Execution of Work

Written approval from the Superintendent shall be obtained to carry out this activity in any location. The unsuitable material to be removed shall be deposited in a suitable location as directed by the Superintendent.

Measurement and Payment

The unit of measurement for removal of unsuitable material is cubic metres (m³).

B.60 TREE FELLING AND REMOVAL

Description of Work

Tree felling shall consist of removal of trees, including the removal of the roots to a depth of 1 metre below the existing surface. The Superintendent shall designate the trees to be cut. All debris shall be stored and disposed of in a manner satisfactory to the Superintendent. The road alignment shall be adjusted where possible to avoid the destruction of trees, and no tree shall be removed without the prior approval of the Superintendent.

Measurement and Payment

The unit of measurement for tree felling is the number of trees removed (no.). Measurement shall not include works covered under B.20.

C EARTHWORKS

C.10 EXCAVATE, BREAK AND REMOVE BOULDERS/ROCK AND DISPOSE

Description of Work

This activity shall include the removal and disposal of weathered as well as hard rock that obtrude, encroach or otherwise obstruct the work within the road prism. The moving of a certain amount of soil may be inherent to or unavoidable during the process of clearing and no extra payment will be made for this.

Execution of Work

The rock shall be excavated and broken into pieces small enough to be removed normally. The work shall be carried out using labour and appropriate hand tools. Only if agreed with the Superintendent will equipment such as compressor or explosives be used.

Measurement and Payment

The unit of measurement for this activity is cubic metres (m³). The quantity shall be agreed to by the Superintendent. Separate payment for the use of equipment shall be made under Daywork, and the tendered rate shall therefore not include the use of equipment.

C.20 EXCAVATE SIDE DRAINS IN SOIL

Description of Work

The work includes excavation of side drains in soil to the standard according to drawings (minimum depth 300mm) and placing material on the road to form camber or dispose as waste. As such this activity is meant to re-establish the proper cross-sectional shape according to the standard cross section. The classification "soil" shall be material which can be dug using spades, hoes and mattocks.

Execution of Work

Proper setting out and measuring shall be made prior to excavation and must be approved by the Superintendent. Excavation shall be carried out in two steps. The first stage is excavation of a rectangular trench and the second step is sloping of the trench. If the soil consists of the required quality for sub-base material it shall be placed in the middle of the road. Having completed trenching and back-sloping, the camber can be properly formed with the excavated material. If the soil excavated is not of the required quality, it shall be disposed of as waste in such a way that it will not block any drainage of the road and is not otherwise causing any inconvenience along the road. The work shall be carried out using appropriate hand tools and if necessary shoulder baskets and stretchers.

Measurement and Payment

The unit of measurement for excavation of side drains in soil is cubic metres (m³). The tendered rate shall include full compensation for excavation of the material, placing and spreading of material to form road camber or dispose as waste, including a free haul of 50 metres.

C.21 EXCAVATE SIDE DRAINS IN WEATHERED ROCK

Description of Work

The work includes excavation of side drains in weathered rock according to standard drawings (minimum depth 300mm) and dispose as waste or if the material is suitable to place material on road to form camber. The classification "weathered rock" is material which can be dug using pick axe only in addition to the tools mentioned under C.20.

Execution of Work

As described under C.20 above. Excavation in weathered rock is normally expected to be carried out at a productivity rate up to five times lower than excavation in soil.

Measurement of Work

As described under C.20 above.

C.30 EXCAVATE SUITABLE MATERIAL AND HAUL MATERIAL NOT EXCEEDING 200M AND PLACE ON TO THE ROAD AND COMPACT IN LAYERS NOT EXCEEDING 150MM

Description of Works

Excavation of suitable base material shall consist of the provision of base material where required to raise the level of the existing road (embankment, side fill or benching) or to repair the surface (erosion gullies, potholes etc.). The activity comprises the excavation of borrow material, hauling, spreading and compaction of the material on the road surface. The Contractor shall take the necessary action if required and directed by the Superintendent to avoid any erosion or other damages in connection with the excavation.

Execution of Works

All borrow shall be authorised in writing by the Superintendent. Such authorisation shall only be granted if the excavation of side drains does not yield sufficient fill. The Contractor shall obtain the prior permission of the Superintendent before developing any borrow area including the widening of cuts.

Should there be insufficient suitable material adjacent to the road to complete the earthworks construction the Superintendent shall instruct the Contractor to open a borrow pit and to transport the material by suitable approved means. Any such borrow pit shall be operated in such a way as to cause the minimum of environmental damage to the location and nuisance to the public. The Principal shall conduct all negotiations with land owner/occupier, preparing and signing the legal agreements, making payments (if any) and giving proper notice to enter upon the land and obtaining all the necessary consents.

Prior to placing any fill or embankment upon any area, all clearing and grubbing operations shall have been completed in accordance with Sections B.20, B.30 and B.40. The Contractor shall, when ordered by the Superintendent excavate or displace swamp ground and back-fill with suitable material in accordance with Section B.50.

The works shall be carried out using appropriate hand tools. Embankments and fills shall be constructed in layers approximately parallel to the finished grade of the roadbed. During construction, a smooth grade having an adequate crown shall be maintained at all times to provide drainage. The layers shall not exceed a thickness of 150mm, consisting of materials free from roots, sods or other deleterious material.

Where a fill is being carried out to widen an existing embankment or side fill, the new fill material shall be fully keyed into the old fill by means of benching which shall be in steps each not less than 300 mm high. Steps shall be cut in advance of the filling.

In the absence of site testing facilities the Superintendent shall instruct the Contractor on the method of compaction with the available plant. In general this will be in the range for vibrating rollers, of

Weight	Passes (Earthworks)
700 kg	8
1000 kg	6

Following the appropriate trimming of the earthworks to achieve the lines and levels required the earthworks shall finally be proof-rolled until there is no visible movement under the roller. Compaction shall be carried out from the edges of the embankment or side fill towards the centre and the material shall be as close as reasonably possible to the Optimum Moisture Content for the compaction effort. The Contractor shall use a water bowser to achieve this state and shall allow time for material which is too wet to dry to the same state before attempting to compact. If site testing is available the earthworks shall be compacted to not less than 90% Mod. AASHTO standard density. The compacted layer shall be approved by the Superintendent before the Contractor can commence the fill of a new layer.

Where directed by the Superintendent, soft, wet or unstable areas of the sub-grade which develop during construction shall be excavated and replaced with approved stable material in layers not exceeding 150 mm loose thickness and compacted as previously specified. Where such areas have been caused by the fault or negligence of the Contractor, they shall be excavated and replaced at his own expense.

The side slopes of embankments and side fills shall be trimmed to line and compacted sufficiently to prevent the formation of erosion gullies.

Measurement and Payment

The unit of measurement is cubic metres (m³). Measurement shall be made on the finished road surface and shall be cross checked by measuring the excavation made at the borrow area.

C.40 PROVIDE MATERIALS AND CONSTRUCT SCOUR CHECKS

Description of Works

Provide materials and construct scour checks at specified intervals as a measure of erosion protection of side drains on roads with longitudinal slopes. The scour checks interval in the ditch is determined according to the slope. Guidelines to determine the interval in relation to the side drain gradient are given in the table below:

Road Gradient [%]	Scour Check Interval [m]
4	not required
5	20
6	15
7	10
8	8
9	7
10	6

Execution of Work

Scour checks shall be constructed in drainage ditches at locations shown on the Drawings or directed by the Superintendent.

Scour checks shall be constructed of natural stone or with wooden or bamboo stakes, and shall follow the shape of the ditch. The level of the flat of the scour check shall be not less than 150 mm below the edge of the road shoulder. Stone shall be placed downstream of the stakes to avoid erosion as shown on drawings.

Measurement and Payment

The unit of measurement is the no. of scour checks constructed. The tendered rate shall include full compensation of the provision of the materials and construction of the scour checks.

C.50 CONSTRUCT MITRE AND CATCH-WATER DRAINS

Description of Works

Excavation of mitre and cut-off drains at locations shown on drawings or directed by the Superintendent to direct road surface water and run-off water away from the road body.

Execution of Works

Mitre drains shall be constructed with sufficient length and volume to allow the drained road surface water to flow into the natural drainage pattern of the surrounding terrain. Gradients shall be not less than 2% and not exceed 5%.

Catch-water drains shall be constructed, where directed to protect cutting slopes and other lengths of road likely to be damaged by the natural flow of run-off water.

All suitable excavated material shall be used for the road works and unsuitable material shall be disposed of not less than 10 metres from the ditch on the lower side.

The location of outlets of catch-water and mitre drains shall be designed in a manner so that the discharged water does not disturb farming activities in the surrounding areas.

Measurement and Payment

The unit of measurement is metres (m) of mitre drain and/or catch-water drain.

D LATERITE GRAVEL SURFACING

D.10 RESHAPE EARTHWORKS CAMBER

Description of Work

This activity shall consist of reshaping the final sub-base camber, thus repairing damages caused by excessive traffic loads during the period after completion of earthworks and spreading of the laterite gravel surface.

This activity shall not be utilised for repairing damages to the sub-base surface caused by the Contractor's own construction equipment, nor by the local traffic generated by local residents as expected to occur on the improved road sections.

Description of Work

Prior to laying the wearing course, the Contractor shall correct any deformations, ruts, soft spots or other defects in the formation all to the satisfaction of the Superintendent whose written approval shall be obtained before laterite surfacing works commence.

The final layer of earthworks shall, on completion of compaction, be well closed, free from movement under the compaction plant, free from compaction planes, ridges, cracks or loose material. The compacted thickness of any layer laid shall not exceed 150mm and

shall be compacted and placed as originally prescribed in C.20 and C.30.

Should there be insufficient suitable material adjacent to the road to complete the earthworks construction the Superintendent may instruct the Contractor to open a borrow pit and to transport the material by suitable approved means.

Measurement and Payment

The unit of measurement is square metres (m²). Measurement shall be made on the finished road surface and shall not exceed the quantity for which the Superintendent gave prior written approval before the commencement of this activity.

D.20 SPREAD, SHAPE TO CAMBER AND COMPACT GRAVEL

Description of Work

This activity shall consist of spreading to form camber or super-elevation and compact laterite. The thickness of the compacted layer shall be 150mm unless otherwise instructed.

Execution of Works

Prior to laying the wearing course, the Contractor shall correct any deformations, ruts, soft spots or other defects in the formation all to the satisfaction of the Superintendent whose written approval shall be obtained before laterite surfacing works commence.

The laterite wearing course shall be deposited in such quantity and spread in a uniform layer across the full width required, so that the final compacted thickness is nowhere less than shown upon the Drawings or instructed by the Superintendent.

The compacted thickness of any layer laid, processed and compacted at one time, shall not exceed 150mm and where a greater compacted thickness is required, the material shall be laid and processed in two or more layers.

Wearing course material shall be broken down to the specifications required. Any oversize material which cannot be broken down to the required size shall be removed to spoil.

The laterite wearing course shall be compacted to a dry density of at least 95% MDD (AASHTO, Modified Proctor). The moisture content at the time of compaction shall be between 80% and 105% of the optimum moisture content. The Contractor shall dry or wet the material in order to comply with the moisture content required.

The wearing course of the material shall, on completion of compaction, be well closed, free from movement under the compaction plant and free from compaction planes, ridges, cracks or loose material. All loose, segregated or otherwise defective areas shall be removed and made good with new material to the full thickness of the layer.

The Contractor shall carry out in-situ density tests on completed wearing course layers to ensure the compaction densities required by the Specification are obtained. The test method used shall be approved by the Superintendent. At least one in-situ density test shall be performed for each 1000 m² of material laid.

Using the selected compaction equipment, the Superintendent shall determine the number of passes which will be required for a given thickness to achieve the required densities.

The Contractor shall re-compact at his own expense any section on which the specified densities are not achieved.

Measurement and Payment

The unit of measurement shall be cubic metres (m³). The quantity for which payment shall be made shall be the product of the instructed thickness, the instructed average width and the measured length along the centre line of the road.

The rates shall include the placing, spreading, shaping, watering and compaction as specified and shown on the Drawings.

E EROSION CONTROL

E.10 TURFING

Description of Works

This work shall consist of furnishing turf and sods as required and planting them to give a healthy stable covering of grass which will maintain its growth in any weather and prevent erosion of the material in which it is planted.

Execution of Works

Grass shall be of species native to Cambodia, harmless and inoffensive to persons and animals and not of a kind recognised as a nuisance to agriculture. It shall be free of disease and noxious weeds, deep rooted and sufficiently rapid growing and spreading to give complete cover over the planted area within the Defects Liability Period.

The term "grass" embraces turf and sods and, if the Superintendent permits, may include plants of other types capable of giving effective erosion protection.

Sodding or turfing shall be done by planting sods or turf to give continuous cover over the whole area. They shall be planted with their root system substantially undamaged, well buried in firm material, and packed around with moist earth in which they have grown.

Grass shall be planted at such a time and the work shall be done in such a way that at the time of the final construction inspection all areas to be grassed are substantially covered with healthy, well established, firmly rooted grass and the planted area is free from erosion channels.

Surfaces to be planted shall be trimmed in such a way that the ground surface after planting shall be as shown on the Drawings.

The Contractor shall maintain the grass at his expense until the issuance of the Practical Completion Certificate. Maintenance shall consist of watering, preserving, protecting and replacing grass and such other work as may be necessary to keep it in a satisfactory condition to prevent erosion and to present a dense and uniform appearance.

Measurement and Payment

The quantity measured for payment shall be the number of square metres (m²) of turfed or sodded surface whether horizontal or sloping of required and accepted grassing well established in place.

E.20 TREE PLANTING

Description of Works

This work shall consist of planting tree seedlings at the base of embankment and side slope fills to prevent erosion of the material in which it is planted.

Execution of Works

The planting shall be carried out at intervals and locations as directed by the Superintendent. The tree seedlings shall be planted with their root system substantially undamaged, well buried in firm material, and packed around with moist earth in which they have grown.

Tree seedlings shall be planted at such a time and the work shall be done in such a way that at the time of the final construction inspection all seedlings are well established, firmly rooted and the planted area is free from erosion channels.

The Contractor shall maintain the seedlings at his expense until the issuance of the Practical Completion Certificate. Maintenance shall consist of preserving, protecting, watering and replacing seedlings and such other work as may be necessary to keep them in a healthy condition.

Measurement and Payment

The quantity measured for payment shall be the number (no.) of tree seedlings planted well established in place, protected from animals and in a healthy condition.



GENERAL CONDITIONS OF CONTRACT

1 Definitions, Interpretations and Powers

1.1 In the Contract, the following words have the meanings assigned to them except when the context otherwise requires:

- Principal: means the organisation named in the Form of Tender/Bid who will employ the Contractor to undertake the Works.
- Contract: means all the documents comprising the tender/bid as defined in the conditions of tendering/bidding.
- Contractor: means the person or persons firm or company whose tender/bid has been accepted by the Principal and includes his, their or any of their personal representatives, successors and permitted assigns.
- Superintendent: means the Superintendent appointed from time to time by the Principal and notified in writing to the Contractor to act as Superintendent for the purposes of the Contract with defined duties and powers.
- Works: means the Works to be executed in accordance with the Contract.
- Contract Price: means the sum named in the Letter of Agreement subject to such additions and deductions as may be made under the provisions of the Contract.

1.2 Words importing the singular only also include the plural and vice versa where the context requires and words importing persons shall also include bodies corporate or incorporate.

1.3 The Superintendent shall have power to give instructions for:

- (a) any variation to the Works including additions or omissions;
- (b) carrying out any test or investigation;
- (c) the supervision of the Works in accordance with the provisions of the Contract;
- (d) any change in the intended sequence of the Works;
- (e) measures necessary to overcome or deal with any adverse physical condition or artificial obstruction;
- (f) the removal and/or re-execution of any work or materials not in accordance with the Contract;
- (g) the explanation of any matter to enable the Contractor to meet his obligations under the Contract;
- (f) the exclusion from Site of any person employed thereon, which power shall not be exercised unreasonably.

2 General Obligations

The Contractor shall execute the Works in accordance with the contract to the satisfaction of the Superintendent and shall be solely liable for the care of the works, temporary works, materials and constructional plant until the Superintendent has certified that the whole of the Works have been satisfactorily completed by the Contractor.

The Contractor shall provide all materials, labour, plant, equipment, tools and everything whether of a temporary or a permanent nature required for the execution of the Works except where otherwise stated in the Contract.

3 Requirement of Statues and for Safety

The Contractor shall observe and comply with the provisions of all relevant Acts of Parliament, regulations, by-laws, orders, rules, determinations and Awards and all requirements of any authority as shall be in force in the place where the Works are to be executed and as may relate to the Works and shall pay all fees or charges in relation thereto.

The Contractor shall provide and maintain all reasonable safety precautions required for the protection of the Works or other property and for the safety and convenience of the workmen and the public.

If the Contractor or any Sub-contractor defaults in the performance or observance of the requirements of this clause, the Superintendent may direct the Contractor to rectify the default within a reasonable period. If the Contractor or any Sub-contractor refuses or declines to rectify the default, then the Superintendent may suspend the work relative to the default until the default is rectified and the Contractor shall be responsible for all costs arising out of or in consequence of the default and the suspension.

4 Contractor's Risk and Public Liability Insurance

Without limiting his obligations and responsibilities the Contractor in the joint names of the Principal and the Contractor for their respective rights, interests and liabilities and subject to a cross liabilities clause, shall take out insurance.

- (a) Where stated in the *Appendix* under a Contractor's Risk Policy for the total amount of tender/bid for the contract period to the date of Practical Completion.
- (b) Where stated in the *Appendix* under a Third Party Liability Policy during the currency of the Contract in respect of death or bodily injury to any person and damage to property.

The Contractor shall lodge certificates of proof thereof with the Superintendent before the commencement of the Works.

5 Insurance of Employees

The Contractor shall effect and keep in effect during the currency of the Contract such insurance as may be necessary to adequately protect the Contractor and the Principal in respect of liability for payment of compensation to any employee of the Contractor or Sub-contractor of the Contractor, at not less than the amount stated in the *Appendix*.

The Contractor shall lodge certificates of proof thereof with the Superintendent before the commencement of the Works.

6 Patent Rights and Royalties

The Contractor shall save harmless and indemnify the Principal from and against all claims and proceedings for or on account of infringement of any patent rights, design, trade mark or name or other protected right in respect of any machine, plant, work, material or thing, system or method of using, fixing, working or arrangement used or fixed or supplied by the Contractor in connection with the execution of the Contract and from and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or relation thereof.

7 Assignment and Sub-contracting

The Contractor shall not sub-contract the whole of the Works and shall not assign the Contract or assign, mortgage, charge or encumber any of the monies payable under the

Contract or any other benefit whatsoever arising under the Contract. The Contractor shall not sub-contract any part or parts of the Works without the prior written consent of the Superintendent and he shall submit to the Superintendent the names of his proposed sub-contractors and the nature of the work which it is intended they undertake. The consent of the Superintendent shall not relieve the Contractor from any liability or obligation under the Contract.

8 Commencement

The contractor shall commence the Works within the period stated in the *Appendix* calculated from the date of acceptance of the tender/bid and, unless otherwise stated in the Contract, he shall give three days notice to the Superintendent before commencing the Works. Occupation of the site shall not be deemed to be exclusive possession.

9 Materials and Work

Save in so far as it is legally or physically impossible, the Contractor shall execute, complete and maintain the Works in strict accordance with the Contract and adhere strictly to the Superintendent's instructions and directions on any matter touching or concerning the Works. All materials and work shall be consistent with the nature and character of the Works and of kind suitable for its purpose and in conformity with the contract, or if not described shall be in accordance with the relevant standards.

10 Testing of Materials and Work

Materials and work shall be subject to such tests as are required by the Contract or as may be reasonably directed by the Superintendent to establish the conformity of materials and workmanship with the Contract. Except as otherwise stated in the Contract the work of testing and the cost thereof shall be undertaken by the Contractor.

11 Default of the Contractor

In default of compliance by the Contractor with any order or direction of the Superintendent under clauses 3, 9 or 10, after the expiry of three days the Superintendent may himself do or cause to be done all such acts which may be necessary in order to comply therewith and all costs incurred shall be met by the Contractor.

12 Supervision of Works

The Superintendent may appoint a suitably qualified representative of the Principal to supervise the Works on his behalf and shall so inform the Contractor in writing. The Contractor shall both permit any such person to supervise and inspect the Works and shall also comply with all lawful and delegated directions of such a person.

13 Contractor's Representative

The Contractor shall personally direct the execution of the work under the Contract or have on the site of the Works a competent representative approved by the Superintendent to control the work. Directions of the Superintendent given to the approved representative shall be deemed to be directions given to the Contractor.

14 Interference with the Public

The Contractor shall carry out all the operations involving the execution of the Works, except where otherwise permitted by the Superintendent, in such a manner as not to interfere with the public convenience or the access to use and occupation of public or private roads and foot paths or adjoining public or private properties.

15 Provisional Sums and Items

Every Provisional Sum or Prime Cost Item included in the Contract together with the charges and profit (if any) which the Contractor shall have added to such sum or item shall be deducted from the Contract Price and where work to which the Provisional Sum or Item relates has been ordered by the Superintendent and executed by the Contractor the value of the work so executed, valued in accordance with clause 16, shall be added to the Contract Price.

16 Variations

The Superintendent shall make any Variations of the source, form, quality or quantity of the Works or any part thereof that in his opinion is necessary and the value of the Variation shall be taken into account in determining the final Contract Price.

All such work shall be valued at the tendered rates or prices where such are applicable. If the Contract does not contain any rates or the rates or prices tendered are not applicable to the additional work, then reasonable rates or prices shall be agreed in writing between the Superintendent and the Contractor, failing which such rates or prices shall be determined by the Superintendent. No Variation shall vitiate the Contract. No Variation of the Works shall be made by the Contractor without a written order by the Superintendent.

17 Time for Completion

The Contractor shall complete the Works within the time stated in the *Appendix* calculated from the Date of Acceptance of the tender/bid, subject to any extension of time which may be granted by the Superintendent. The Contractor may apply in writing within fourteen days of the occurrence of any action or event not attributable to the act or default of the Contractor or his servants or agents for an extension of time, stating the matters involved and on receipt thereof the Superintendent shall determine whether an extension be granted and if granted the length of the extension and advise accordingly in writing.

18 Liquidated Damages

If the Contractor shall fail to complete the Works within the time stated or such extended time as shall be granted by the Superintendent, then the Contractor shall pay the Principal the sum stated (if any) in the *Appendix* as Liquidated Damages for such default, and not as or in the nature of a penalty, for every week or part of a week by which completion of the Works is delayed.

19 Defects Liability Period

As soon as, in the opinion of the Superintendent, the Works shall have been substantially completed in accordance with the Contract and on receiving a written undertaking by the Contractor to finish any outstanding work during the Defects Liability Period, the Superintendent shall issue a Certificate of Practical Completion and the Defects Liability Period stated in the *Appendix* shall be calculated from the date so certified. The Works shall at or as soon as practicable after the expiration of the Defects Liability Period be delivered up to the Principal fully completed in accordance with the Contract and in good condition (fair wear and tear excepted) to the satisfaction of the Superintendent, who shall thereupon issue a Final Certificate. The Contractor shall at his own expense execute all work of repair, amendment, reconstruction and making good of defects, imperfections, shrinkages or other faults as may be required by the Superintendent during the Defects Liability Period or within fourteen days after its expiration as a result of an inspection made prior to its expiration.

20 Cleaning up by Contractor

The Contractor shall keep the Works clean and tidy during the Contract and on the completion of the Works the Contractor shall clear away and remove from the site of the Works all plant, surplus material, rubbish and temporary works of every kind and fill and consolidate and level off all excavations (other than those forming part of the Works) made by the Contractor on the site and leave the whole of the site and works clean and tidy and free of rubbish and surplus material to the satisfaction of the Superintendent.

21 Rise and Fall in Costs

The Contract shall not be subject to adjustment for rise and fall in costs.

22 Payments

The Works shall be measured and valued as provided for in the Contract. Unless otherwise stated in the Contract, and subject to the provisions of the Contract, the Contractor may submit to the Superintendent at intervals of not less than one month a statement showing the estimated value of the Works executed up to the end of that period. Within 28 days of the delivery of such statement the Superintendent shall certify and the Principal shall pay to the Contractor such sum as the Superintendent considers is properly due less the retention as set out in the *Appendix* and any other deductions due to be made under the provisions of the Contract.

One half of the retention money shall be paid to the Contractor within 14 days after the issue by the Superintendent of the Certificate of Practical Completion. The remainder of the retention less any amounts used by the Superintendent under the provisions of the Contract shall be paid to the Contractor within 14 days after the issue of the Final Certificate by the Superintendent.

In the event that a Mobilisation Advance or any other advance payment has been made to the Contractor against which deductions may be made under the provisions of the Contract from monies owed to the Contractor, the repayment procedure shall be set out in the *Appendix*.

23 Default or Bankruptcy of Contractor

If the Superintendent shall certify to the Principal that the Contractor has failed to commence the Works within the period stated, or has failed to execute the Works at a rate of progress satisfactory to the Superintendent, or has neglected or omitted to execute any instruction of the Superintendent or has failed to complete the whole of the Works within the period stated for completion or such extended time as the Superintendent may grant, or has intimated that he is unwilling or unable to complete the Works, or has committed an act of bankruptcy, then the Principal may, after giving seven days of notice in writing of his intention to do so, cancel the Contract, and all monies held by the Principal may be used by the Principal for the purpose of completing the Works.

24 Serving Documents

Any notice or document to be given to or served on the Contractor under the terms of the Contract shall be deemed to have been given or served if it is handed to the Contractor, or is sent by prepaid post, or is left at the address stated on the Form of Tender and when sent by prepaid post it shall be deemed to have been given or served at the time of posting.

25 Cambodian Laws

The Contract shall in all respects be interpreted in accordance with the laws of Cambodia and with respect to any proceeding claim action or demand under or arising out of the

Contract, the Courts of Cambodia shall have exclusive jurisdiction.

26 Notification of Claims

It shall be a condition precedent to the Principal being liable to meet any claim for additional payment that the Contractor shall inform the Superintendent in writing not later than 14 days after the date of the occurrence of the events or circumstances on which the claim for additional payment is based.

27 Arbitration

If any dispute or difference shall arise between the Principal or the Superintendent on behalf of the Principal and the Contractor as to any matter arising out of the Contract which cannot be settled during the period of the Contract, then it may be referred at the conclusion of the Contract to an Arbitration Panel of one nominee of each Party and one to be mutually agreed between the Parties.



SPECIAL CONDITIONS OF CONTRACT

1 Labour-based Appropriate Technology

The Contractor shall carry out the Works using a labour-based technology which will maximise the use of effective labour and minimise the use of plant and equipment consistent with the Contractor's obligations regarding standards of work and all other provisions of the Contract.

The Superintendent shall advise the Contractor, if requested to do so, on the most practical working methods to be adopted in order to fulfil this requirement.

2 Detailed Work Programme

Following the notification of the award of the Contract, the Contractor shall prepare, in such detail as shall be satisfactory to the Superintendent, a work programme indicating the mix and balance of labour, plant and equipment which the Contractor intends to use for the Works. The Contractor shall not commence the Works until the work programme has been approved by the Superintendent.

3 Limited Use of Plant

The Superintendent shall have the power to limit the use of any plant or equipment engaged on the Works and the Contractor shall not bring any plant or equipment to the Site without the prior approval of the Superintendent, except for plant and equipment approved in the works programme.

4 Employment Records

The Contractor shall keep full, complete and accurate records of the employment of labour at the Site of Works. These shall include the names, ages, gender, home village, identity number, payments and deductions (if any). These records shall be available for inspection at all reasonable times and summarised on a monthly basis.

5 Superintendent's Power to Inspect

The Superintendent or his authorised representative shall have the power to inspect the employment records and pay sheets of the Contractor's labour force, at any reasonable time, without prior notice to the Contractor. The Superintendent may suspend works where it is found that workers are not engaged in accordance with the labour law and regulations of Cambodia and being paid less than the established minimum wage.

6 Provincial Labour Inspectorate

The designated officers of the Provincial Labour Inspectorate of the Ministry of Social Affairs, Labour and Veterans shall have the right to visit the site of the Works at any reasonable time for the purpose of inspecting labour records and otherwise checking the Contractor's compliance with labour laws and regulations. The inspectorate shall also have the right to call for meetings of the workers for the purpose of explaining their rights and obligations under the statutory regulations.

7 Labour Law of Cambodia

The Contractor shall be thoroughly conversant with the provisions of the Labour Law of Cambodia and its statutory additions and amendments. The Contractor shall ensure that the regulations pertaining to the employment of labour for the Works are fully understood and effected during the period of the Contract. In particular, he shall take note of those regulations regarding employment of women and children, equal pay and conditions, payment of workers, recruitment procedures and right of free association.

The Contractor may be entitled to operate a task work, daily wage or other system of remuneration which is allowed for in the Labour Law regulations.

8 Superintendent's Power to Pay Workers

In the event of default by the Contractor in paying the labour after not more than one month of working, the Superintendent shall have the power to pay the outstanding wages and allowances (if any) in accordance with the pay sheet records and to deduct the amount from any monies due to the Contractor. Continuing default by the Contractor may be a cause for suspension of work under the provisions of the contract.

9 Immediate Payment of Wages

At the request of the Contractor for immediate payment of the labour wages, the Superintendent may agree to certify, at intervals of not less than one month, the total amount of the Contractor's labour wages and allowances (if any) in accordance with the pay sheets, with an additional 10 percent for administrative overheads. The Principal shall pay the certified amount to the Contractor within three days of the receipt of the certificate.

The Contractor shall pay the amount of the wages and allowances (if any) to the workers within three days of receiving the amount from the Principal. Failure by the Contractor to pay within this time may result in the withdrawal of this payment arrangement by the Superintendent. The Superintendent shall have the power to discontinue this payment arrangement if he decides that it is no longer required for the satisfactory completion of the Contract.

The amount of any payment made under this Clause shall be deducted from any monies due to the Contractor, for work completed, under a subsequent interim payment certificate.

10 Recruitment of Workers

As far as reasonably possible, the Contractor shall recruit his un-skilled labour force from areas adjacent to the Works and in any case within reasonably walking distance of the site. The Contractor shall recruit new labour from time to time as the work progresses and he shall agree the recruitment systems and procedures with the Provincial Labour Inspectorate for compliance with the regulations in force at the time.

11 Power to Fix Rates

The Superintendent shall have the power to fix all or any of the unit rates for the work items in the Contract after taking due account of the method of working; the workers productivity; the cost of materials labour and equipment; the Contractors supervision and other overhead costs; and an allowance for profits. If the Contractor does not accept all or any of the rates so fixed, he may request the Principal to review the rates and to make a decision on the rates in dispute.

12 Deductions

The Principal shall have the power to deduct from monies payable to the Contractor under the Contract any amount due from the Contractor in respect of Advance Payments made; plant or equipment received; or materials delivered, whether subject to an agreed repayment schedule or not. The Principal shall take due account of any reasonable request from the Contractor for an agreed repayment schedule.

13 Sub-Contractors and Nominated Sub-Contractors

The Contractor shall be responsible for the performance of any sub-contractor in the execution of Works as if it was the performance of the Contractor and the provisions of the Contract shall equally apply.

A Nominated Sub-Contractor shall be deemed the same as a sub-contractor except that the Contractor shall not be obliged to accept the employment of a sub-contractor, nominated by the Principal, against whom the Contractor may raise reasonable objection.

14 Progress Meetings

The Superintendent shall have the right to call the Contractor to regular progress meetings at not less than one month intervals to review the construction. If required to do so the Contractor shall submit revised and updated work plans indicating how he intends to complete the Works within the contract period. Failure to submit satisfactory plans may result in the Superintendent withholding payment due under the Contract for such a period as he considers appropriate.

15 Contractor's Staff

The Contractor shall employ site supervision staff who are sufficiently experienced in labour-based construction technology. All staff shall be approved by the Superintendent before being engaged on site and the Superintendent shall have power to require the removal from site of any staff he considers insufficiently skilled for this type of construction.

16 Technical Manual

Where a labour-based construction Technical Manual exists, the Contractor shall be expected to follow the methods and standards set out and the Principal shall provide the Contractor with sufficient copies of the Manual for this purpose.

17 Substantial Completion in Parts

At the request of the Contractor, the Superintendent may agree the substantial completion of sections of works. The Maintenance (Defects Liability) period for such sections will commence from the date of the certificate of substantial completion as set out in the General Conditions.



APPENDIX TO CONDITIONS OF CONTRACT - CONTRACT DATA

Contract No: _____

Contract Name: *Labour-based Road Construction Works*

Name of Principal: Ministry of Rural Development

Name of Superintendent: Ministry of Rural Development represented by Provincial Departments in collaboration with I.T. Transport Ltd.

Province: _____

Name of Contractor: _____

Date of Commencement: _____

Date of Completion: _____

Site Location(s): _____

Amount of Retention Money: 15 percent

Currency of Payment: United States Dollars

Defects Liability Period: 3 months

Minimum Amount of Interim Certificate: US\$ 500:-

Time for Payment to be Made after Issue of Certificate: 1 week

Payment Schedule: Payment can be claimed on a monthly basis, however first payment can be claimed two weeks after commencement of works.

Minimum Insurance Cover for Workers Compensation: US\$ 10,000:-



FORM OF AGREEMENT

Contract No: _____ Contract Name: _____

This agreement made this _____ day of _____ 20____

between the Ministry of Rural Development (hereinafter called the Principal) of the one part,
and _____ (hereinafter called the Contractor)
of the other part.

Whereas the Principal is desirous that certain works should be executed by the Contractor, viz. the *road construction works* from _____ to _____ in _____ Province, and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

Now this Agreement witnesseth as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:

a) Form of Agreement,	d) Specific Conditions of Contract,
b) Form of Bid,	e) Specifications and Drawings, and
c) General Conditions of Contract,	f) Priced Bill of Quantities.
3. In consideration of payments to be made by the Principal to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Principal to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Principal hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price of such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
5. In witness whereof the parties hereto have caused this Agreement to be executed the day and year first before written.

Signed and approved: _____ Date: _____ on behalf of the Contractor

Signed and Approved: _____ Date: _____ Provincial Project Manager on behalf of the Principal
--

Witnessed: _____ Date: _____ Field Engineer, Project Implementation Consultant
--



Kingdom of Cambodia
Ministry of Rural Development
Rural Infrastructure Improvement Project
ADB Loan No. 1385 - CAM (SF)



EVALUATION OF BIDS for ROAD WORKS

Contract No: _____

Province: _____

Rating	Company Name	Quotation (US\$)	Remarks
1			
2			
3			
4			
Engineer's Estimate			

The Provincial Project Manager hereby recommends the selection of:

for the execution of road works from _____ to _____,

at the total price of: _____

Justification:

Verified by Field Engineer: _____ Date: _____
(Project Implementation Consultant)

Signature of Provincial Project Manager: _____ Date: _____

APPROVAL BY PROJECT MANAGEMENT OFFICE

Submitted: _____	Date: _____
National Project Manager	
Endorsed: _____	Date: _____
Team Leader, Project Implementation Consultant	
Approved: _____	Date: _____
Project Director	
Final Approval: _____	Date: _____
Project Coordinator	



Kingdom of Cambodia
Ministry of Rural Development
Rural Infrastructure Improvement Project
ADB Loan No. 1385 - CAM (SF)



PAYMENT BREAKDOWN

Road Name:
Contract No.
Chainage:

Province:
Date:

Item	Description	Bill of Quantities				Previous Payments		This Payment	
		Unit	Qty	Rate	Total Amount	Qty	Amount	Qty	Amount
A10	Setting up of camp at site	sum	1						
A11	Site security	wd							
A12	Provision of Insurances	sum	1						
A13	Signboards	no.	2						
A20	Removal of Camp	sum	1						
	Sub-Total			0.00		0.00		0.00	
B10	Setting out alignment	m							
B20	Clear site of grass and light bush	m ²							
B30	Grubbing and stump removal	m ²							
B40	Topsoil removal	m ²							
B50	Remove unsuitable material	m ³							
B60	Tree felling and removal	no.							
	Sub-Total			0.00		0.00		0.00	
C10	Break and remove boulders	m ³							
C20	Excavate side drain to form camber	m ³							
C21	Excavate side drain in weathered rock	m ³							
C30	Excavate, haul and place materials	m ³							
C40	Construct scour checks	no.							
C50	Construct mitre and catch-water drains	m							
	Sub-Total			0.00		0.00		0.00	
D10	Reshape earthworks camber	m							
D20	Shape and compact laterite	m ³							
	Sub-Total			0.00		0.00		0.00	
E10	Turfing	m ²							
E20	Tree planting	no.							
	Sub-Total			0.00		0.00		0.00	
	GRAND TOTAL			0.00		0		0.00	

Contractor's Signature



INTERIM PAYMENT CERTIFICATE FOR ROAD WORKS

Road Name: _____ Contract No: _____
 Province: _____ Certificate No: _____
 Contractor: _____
 Address: _____
 Commencement Date: _____ Completion Date: _____

This is to certify that the road construction works as detailed in the attached Breakdown of Payments and referred to in the Bill of Quantities of the above mentioned Contract have been completed and accepted to the satisfaction of the Project in accordance with the terms and conditions of the Contract.

1. Invoice Amount	Percentage Completed	Amount, US\$
Measured Works:	[]	[]
2. Deductions		
Less 15% Retention	(1) x 0.15	[]
Other: _____ (specify)		[]
3. Total Amount Due:	(1)-(2)	[]

4. Details of previous payments

Cert No.	Date	Percentage Completion	Amount, US\$
1			
2			
3			
Total Previous Payments			0.00

5. Total Contract Value	
6. Contract Balance	(5)-(4)-(3)

Works inspected by: _____ Provincial Engineer	Date: _____
Endorsed: _____ Field Engineer, Project Implementation Consultant	Date: _____
Approved: _____ Provincial Project Manager	Date: _____



CERTIFICATE OF PRACTICAL COMPLETION OF ROAD WORKS

Road Name: _____ Contract No: _____
 Province: _____ Certificate No: _____
 Contractor: _____
 Address: _____

This is to certify that the road construction works at the above mentioned road(s) and as specified in the Contract and referred to in detail in the Bill of Quantity have been completed and accepted to the satisfaction of the Project in accordance with the terms and conditions of the Contract.

It is hereby advised that payment is made to the Contractor as follows:

1. Remaining Payment of Works:		11,000.00
2. Less Deductions: _____	(specify)	1,000.00
3. Less 15% Retention	(1)-(2) x 0.15	1,500.00
4. Balance of Remaining Payment:	(1)-(2)-(3)	8,500.00

5. Details of previous payments:

Cert No.	Date	% Compl.	Payment, US\$	Retention, US\$
1			850.00	150.00
2			1,700.00	300.00
3			21,250.00	3,750.00
Total Previous Payments/Retentions			23,800.00	4,200.00

6. Total Retention Monies	(3)+(5)	5,700.00
7. Return of 7.5% Retention	(6) / 2	2,850.00
8. Total Amount Due:	(4)+(7)	11,350.00
9. Total Contract Value		49,000.00
10. Balance Due after Defects Liability Period		2,850.00

Works inspected by: _____	Date: _____
Provincial Engineer	
Endorsed: _____	Date: _____
Field Engineer, Project Implementation Consultant	
Approved: _____	Date: _____
Provincial Project Manager	



FINAL CERTIFICATE OF COMPLETION FOR ROAD WORKS

Road Name: _____ Contract No: _____

Province: _____ Certificate No: _____

Contractor: _____

Address: _____

This is to certify that the construction of road works at the above mentioned road(s) and as specified in the Contract, have been fully completed and accepted to the satisfaction of the Project after inspection following the Defect Liability Period in accordance with the terms and conditions of the Contract.

It is hereby advised that payment is made to the Contractor for the remaining retention monies, comprising 7.5 % of the total Contract value, calculated as follows:

	Amount, US\$
1. Remaining Retention Monies Withheld:	<input type="text"/>
2. Deductions: _____ (specify)	<input type="text"/>
3. Total Amount Due: _____ (1)-(2)	<input type="text"/>

Amount in Words: _____

4. Date of Practical Completion: _____

5. Date of End of Defects Liability Period: _____

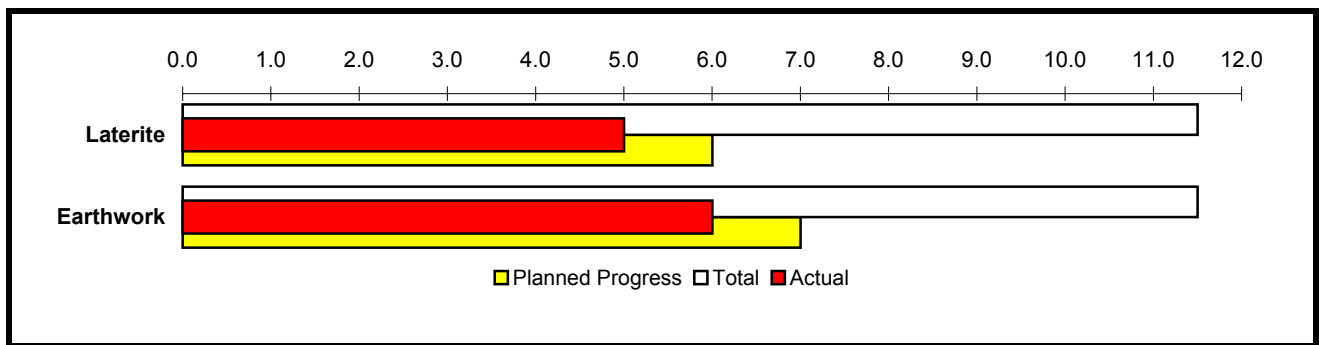
Works inspected by: _____	Date: _____
Provincial Engineer	
Endorsed: _____	Date: _____
Field Engineer, Project Implementation Consultant	
Approved: _____	Date: _____
Provincial Project Manager	



Monthly Physical Progress Road Construction Works

Road Name _____ No. _____ Date _____ Province _____

Total Quant.				1999												Percent
Unit	Plan	Actual		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Compl.
Earthwork	km	11.5	6.0	Plan	0.5	1.0	1.5	2.0	2.0	1.5	1.5	1.5				52
				Actual	0.5	1.0	1.5	2.0	1.0							
Laterite	km	11.5	5.0	Plan				2.0	4.0	2.0		1.5	1.0	1.0		43
				Actual				2.0	3.0							
Cumulative Up to This Month																Percent
	Plan	Actual														Progress
Earthwork	km	7	6	Plan	0.5	1.5	3.0	5.0	7.0	8.5	10.0	11.5				86
				Actual	0.5	1.5	3.0	5.0	6.0							
Laterite	km	6	5	Plan				2.0	6.0	8.0		9.5	10.5	11.5		83
				Actual				2.0	5.0							



Prepared by _____ Date _____ Verified by _____ Date _____
Contractor Provincial Engineer

