

Democratic Socialist Republic of Sri Lanka
Ministry of Agriculture, Livestock, Lands and Irrigation



MAHAWELI AUTHORITY OF SRI LANKA

PROCUREMENT OF WORKS UNDER NATIONAL COMPETITIVE BIDDING

BIDDING DOCUMENT

For

**Construction of 115m River Protection Structure Along Right Bank of
Mahaweli River at the boundary of Export Agriculture Department at Gatambe**

Contract No: DDG/TS/CON/HW/GA/GABION/45

OCTOBER 2025

Name of Bidder	
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Contents of Bidding Documents

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Invitation for Bids (IFB)

**Ministry of Agriculture, Livestock, Lands and
Irrigation**



MAHAWELI AUTHORITY OF SRI LANKA

BID NOTICE

- On behalf of the Director General of Mahaweli Authority of Sri Lanka, The Chairman, Department Procurement Committee of Mahaweli Authority of Sri Lanka , invites sealed Bids from eligible and qualified bidders for work described below.

Contract No.	Description of Work	Non-Refundable Bid Fee per Set of a Bidding Document (Rs.)	CIDA/ICTAD Grade, Field	Pre-Bid meeting
DDG/TS/CO N/HW/GA/G ABION/45	“Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe” Location: Gatamba, Kandy Estimated Value - Rs. 101.47 Mn without VAT Contract period - 547 days	Bid Security value: Rs. 1,525,000.00 Validity: Up to 03.03.2026 Non-refundable tender deposit: Rs. 23,000.00	C5 or above for Irrigation and Drainage Canal	Date: 28.10.2025 Time: 10.00 a.m. Venue: EIC office Polgolla

- Bidding will be conducted through National Competitive Bidding Procedure.
- To be eligible for contract award, the successful bidder shall not have been blacklisted and shall meet the requirements in Bidding Data.
- Bidders who have the Grade and field of registration under the CIDA scheme of registration mentioned in the above table against the work and, in the case of a contract value above Rs.5Mn, registered in the Department of the Registrar of Companies under the provision of Public Contract Act No.3 of 1987 only will be eligible for bidding. The conditions stipulated in the Public Financial Circulars and any other circular issued by the GOSL shall also be applied for the evaluation.

5. Prospective Bidders can obtain the Bidding Documents by a written request on a company/firm letterhead, addressed to the Deputy Director General (Technical Services), Mahaweli Authority of Sri Lanka, 3rd Floor, No. 500, T.B. Jayah Mawatha, Colombo 10 from **2025.10.13** up to **2025.11.03** from **9.30 hrs to 15.00 hrs** on working days, on payment of a non-refundable tender fee as given above per set of Bidding Documents Bidders are free to bid for more than one tender but selections will be made according to the capacity limits in the CIDA registration.
6. The Bidding documents may be inspected in the **<http://mahaweli.gov.lk>** website for references.
7. Sealed Bids in **duplicate** clearly marked the contract name and the number on the top left corner of the envelope may be dispatched either by Registered Post or hand delivered or courier to the **Director General, Mahaweli Authority of Sri Lanka, 9th Floor, No. 500, T.B. Jayah Mawatha, Colombo 10** before **11.00 hrs** on **2025.11.04** Bids will be opened immediately thereafter. Bidders or their authorised representatives, not exceeding two (2) in numbers are permitted to be present at the opening of bids.
8. For further details, please contact Technical Services Division of Mahaweli Authority of Sri Lanka on Tel: **011-2689651, 011-2687475** email: **ddgts.masl@gmail.com**.

Director General,
Mahaweli Authority of Sri Lanka.

Section - 1

INSTRUCTIONS TO BIDDERS

Note: Bidders are advised to refer Section 1 – Instructions to Bidders of Standard Bidding Document ICTAD Publication No. – ICTAD/SBD/02 – Second Edition-January 2007

Section - 2

BIDDING DATA

Section 2 - Bidding Data

Instructions to Bidders Clause Reference	Entry
1.1	The Employer's Name and Address Name : Director General, Mahaweli Authority of Sri Lanka Address : 9 th Floor, No. 500, T.B. Jayah Mawatha, Colombo 10.
1.1	Scope of the Works The works consists of constructing a river bank protection structure (Rip-Rap) using boulders and groynes for 115m length along Right bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe Located at Gatambe, Kandy
1.2	Time for Completion The Time for Completion for the whole of the works shall be 547 days (18 months)
2.1	Source of funds The source of funds is the Government of Sri Lanka
3.1, 3.2, 4.1	Qualification Information The following information shall be provided in Section 9 - Schedules: • CIDA registration - Registration number - Grade - Specialty - Expiry date • VAT registration number • Attach Construction Program • Attach Legal Status (Sole Proprietor, Partnership, Company etc.) • Attach authentication for signatory • Total monetary value of construction work performed for each of the last five years • Experience in works of a similar nature and size for each of the last 05 years • Construction equipment • Staffing • Attach Work plan and method statement

4.2 (a)	CIDA registration required The registration required; Specialty Irrigation and Drainage Canals Grade C5 or above																
4.2 (b)	Average annual volume of construction work performed in last 5 years The average annual volume of construction work performed in the last five years shall be at least Rs. 101.48 Mn																
4.2 (c)	Experience as a prime contractor in the construction of Construction, rehabilitation and maintenance of at least one work of a similar nature and complexity similar to work over the last 10 years Construction and rehabilitation works in irrigation canals for the value of at least Rs. 71.03 Mn																
4.2 (d)	Essential equipment Proposals for the timely acquisition (own, lease, hire, etc.) of the following essential equipment shall be ; 1. BackHoe or Excavator 2. Dozer 3. Dump truck 4. Tractor with trailer 5. Concrete Mixture																
4.2 (e)	Qualifications and experience of the Contract Manager and other Key personnel <table border="1"> <thead> <tr> <th>No.</th><th></th><th>Qualifications & Experience</th></tr> </thead> <tbody> <tr> <td>1</td><td>Contract manager</td><td>BSc. (Engineering) or Equivalent plus at least 10 years' experience in similar projects after obtaining Full Membership of the Institution of Engineers Sri Lanka (Chartered Engineer) or equivalent</td></tr> <tr> <td>2</td><td>Site Engineer (Civil)</td><td>B.Sc. Civil Engineering degree or equivalent with 5 years total experience and 3 years similar work experience</td></tr> <tr> <td>3</td><td>Engineer Assistant</td><td>NVQ Level 5 with minimum 5 years experience in similar work</td></tr> <tr> <td>4</td><td>Site Agent</td><td>Minimum 5 years' experience in similar works</td></tr> </tbody> </table> The Bidder must demonstrate that it will have a suitably qualified Contract Manager and suitably qualified other key personnel in adequate numbers, as described in the table above.		No.		Qualifications & Experience	1	Contract manager	BSc. (Engineering) or Equivalent plus at least 10 years' experience in similar projects after obtaining Full Membership of the Institution of Engineers Sri Lanka (Chartered Engineer) or equivalent	2	Site Engineer (Civil)	B.Sc. Civil Engineering degree or equivalent with 5 years total experience and 3 years similar work experience	3	Engineer Assistant	NVQ Level 5 with minimum 5 years experience in similar work	4	Site Agent	Minimum 5 years' experience in similar works
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4.2 (f)	Liquid assets and/or credit facilities required																

	The minimum amount of liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, shall be not less than Rs. 16.92 Mn
10.1	Clarification of Bidding Documents Employer's address for clarification of bidding documents is: Name of Officer: <i>Deputy Director General (Technical Services)</i> Address: <i>Mahaweli Authority of Sri Lanka</i> <i>3rd Floor</i> <i>No. 500, T. B. Jayah Mawatha</i> <i>Colombo 10</i> <i>Phone: 011 269 6436</i> <i>Telefax: 011 268 9651</i>
13.1(A) (j) 13.1(B) (d)	The Bid submitted by the bidder shall comprise the following: (A) Enclosed in the envelop marked as "Original"; (a) Dully filled and signed Form of Bid (in the form indicated in Section 7) (b) Bid Security (c) Power of attorney for the signatory to the Bid (d) Section 2 - Bidding Data (e) Section 4 - Contract Data (f) Section 6 – Specifications (g) Section 8 – Priced Bill of Quantities (h) Section 9 – Duly filled Schedules (i) Section 10 – Drawings (j) Any other information required to be completed and submitted by bidders, as specified in the Bidding Data And (B) Enclosed in the Envelope marked "Copy" (a) Duly filled and signed form of Bid (in the format indicated in Section 7) (b) Section 8 - Priced Bill of Quantities (c) Section 9 – Dully filled Schedules;

	(d) Any other information required to be completed and submitted by bidders as specified in the Bidding Data
14.4	Adjustments for change in cost The Contract is subjected to Price adjustments
16.1	Period of Bid validity: The Bid shall be valid up to 91 days from the bid submission deadline date (date). The Bid shall be valid up to 03.03.2026 (date)
17.1	Amount of Bid security: The amount of Bid Security is Sri Lanka Rupees: One Million Five Hundred and Twenty Five Thousand (LKR 1,525,000.00) Bid security shall only be an unconditional guarantee issued by a bank recognized by the Central Bank of Sri Lanka in accordance with the format given
17.2	Validity of Bid Security (119 days) The Bid Security shall be valid up to 03.03.2026 (date)
19.1	Pre-Bid meeting Venue, time, and date of the pre-bid meeting. Date: 28.10.2025 Time: 10.00 am Venue: Engineer Incharge office, Polgolla Pre-bid meeting will be followed by a site visit.
21.2 (a)	Employer's Address for Bid submission Employer's address for the purpose of bid submission is: <i>Mahaweli Authority of Sri Lanka</i> <i>9th floor, No. 500, T. B. Jayah Mawatha</i> <i>Colombo 10</i>
21.2 (b)	Identification number of Contract Identification Number of the Contract is: DDG/TS/CON/HW/GA/GABION/45
22.1	Deadline for submission of Bids Deadline for submission of Bids: 04.11.2025

25.1	Bid opening Venue, time, and date of bid opening Mahaweli Authority of Sri Lanka 9th floor, No. 500, T. B. JayahMawatha Colombo 10 Time : 11.00 am Date : 04.11.2025
31.1	Preference for Domestic Bidders: Not Applicable
32.0	After evaluation of Bids according to procedures described in the Bidding Document, the employer will inform all the bidders in writing the selection of the successful Bidder and the intention of contract award to such Bidder. The stand still period for the contract shall be 10 working days. Any unsuccessful bidder if they so wish, may make request for a debriefing within three working days of such notice to Director General, MASL and any unsuccessful bidder if wishes to submit an appeal such appeal shall be made before the expiry of the stand still period with the non-refundable cash deposit equivalent to amount and address given below. Address: Director General, Mahaweli Authority of Sri Lanka, T. B. Jayah Mawatha, Colombo 10. Cash Deposit: Rs. 10,000.00
35.1	Amount of Performance Security The Standard Form of Performance Security acceptable to the Employer shall be a Guarantee from an Agency accepted and stated in the Procurement Guidelines. The amount of the Performance Security is 5% of the Initial Contract Price. The Performance Security shall be valid until (date). Performance security shall only be an unconditional guarantee issued by a bank recognized by the Central Bank of Sri Lanka in accordance with the format given.
37.0	Fees and types of reimbursable expenses to be paid to the adjudicator shall be on a case to case basis and shall be shared equally by the contractor and the Employer

Section - 3

CONDITIONS OF CONTRACT

Note :

Bidders are advised to refer Section 3 – Condition of Contract of Standard Bidding Document ICTAD Publication No. – ICTAD/SBD/02 –second edition-January 2007

Section - 4

CONTRACT DATA

Section 4 - Contract Data

Conditions of Contract Clause Number/s		
(*) 1.1.2.2 & 1.3	Employer's name and address	Name: Director General, Mahaweli Authority of Sri Lanka Address: Mahaweli Authority of Sri Lanka 9th floor, No. 500, T. B. Jayah Mawatha Colombo 10
1.3	Contractor's name and address	Name: Address:
(*) 1.1.2.4 & 1.3	Engineer's name and address	Name: Director, Division of Major Dams and Reservoir Operations Address: Division of Major Dams and Reservoir Operation, Mahaweli Authority of Sri Lanka, Digana
1.1.2.5 Contractor's Personnel	Key Personnel The following is added at the end of the sub-clause: "Contractor's Personnel includes Key Personnel as named in the Contract."	
1.1.2.9	Replace existing Clause 1.1.2.9 with following: "Dispute Adjudication Board" (DAB) means three persons appointed under Sub-Clause 19.2 [Appointment of the Dispute Adjudication Board] or Sub-Clause 19.3 [Failure to Agree on the Composition of the Dispute Adjudication Board] of the Conditions of Contract.	
(*) 1.1. 3.3	Time for Completion of the Works	Time for Completion is 547 Days
(*) 1.1.3.7	Defects Notification Period	Defects Notification Period is 365 Days
(*) 2. 1	Right of access to the Site	14 Days after Letter of Acceptance

(*) 3.1	Engineer's Duties and Authority	The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions: (a) Clause 13, where the final effect of the variations increases the Contract Price (b) Sub-Clause
(*) 4.2	Amount of Performance Security	5% of the Initial Contract Price, in the currencies and proportions in which the Contract Price is payable. The acceptable form provided in Section 5, Standard Forms Performance Security shall only be an unconditional guarantee issued by a bank recognized by the Central Bank of Sri Lanka in accordance with the format given
(*) 8.7	Liquidated damages for the Works	0.05 % of the Initial Contract Price per Day
(*) 8.7	Maximum amount of liquidated damages	10 % of the Initial Contract Price
12.2 (b)	Method of Measurement	The Method of Measurement shall be SLS 573

(*) 13.4(b)	Percentage for adjustment of Provisional Sums	10%																					
13.7 Adjustment for changes in cost	Last paragraph “The weightings for each of the inputs of cost” shall be substituted by the following: “The weightings for each of the inputs of cost given in this Clause shall be adjusted only if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.”																						
13.7	Weightings of Inputs	<table border="1"> <thead> <tr> <th>Indices No</th><th>Indices Name</th><th>Input percentage</th></tr> </thead> <tbody> <tr> <td>L3</td><td>Unskilled Labor</td><td>25.90%</td></tr> <tr> <td>M6</td><td>Rubble</td><td>27.97%</td></tr> <tr> <td>M45</td><td>Earth</td><td>14.48%</td></tr> <tr> <td>M7</td><td>Metal</td><td>4.53%</td></tr> <tr> <td>P2</td><td>Heavy Equipment</td><td>16.69%</td></tr> <tr> <td></td><td>Total</td><td>90.00%</td></tr> </tbody> </table> Non-adjustable element shall be: • Preliminary Items (all items) • All Provisional Sum Items	Indices No	Indices Name	Input percentage	L3	Unskilled Labor	25.90%	M6	Rubble	27.97%	M45	Earth	14.48%	M7	Metal	4.53%	P2	Heavy Equipment	16.69%		Total	90.00%
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(*) 14.2	Total Advance Payment	20 % of the Initial Contract Price excluding provisional sums and contingencies																					
(*) 14.2	Number and timing of installments	01 installment																					
(*) 14.3(c)	Percentage of retention	10%																					
(*) 14.3(c)	Limit of Retention Money	5% of the Initial Contract Price																					
(*) 14.5	Minimum amount of Interim Payment Certificates	Rupees 3,400,000.00																					

(*)14.8	Alternative method for Payment of Retention	On reaching the limit of retention, stated in the Contract Data under Sub-Clause 14.3, the Contractor may substitute full retention money with an unconditional guarantee acceptable to the Employer to a value equal to the full retention money, and valid up to 28 Days beyond the end of Defect Notification Period. On receipt of such guarantee the Employer shall repay the full retention money. The guarantee will be released to the Contractor upon the certification of the Engineer that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.																					
(*) 18.2	Third Party Insurance	This Amount of insurance per occurrence is: <table border="1"> <thead> <tr> <th></th><th>Minimum Insurance Amount</th><th>Maximum Deductible</th></tr> </thead> <tbody> <tr> <td>(a) for the works, Plant and materials:</td><td>110% of the contract Price</td><td>Rs 50,000/-</td></tr> <tr> <td>(b) For loss or damage to equipment</td><td>Replacement value of the Equipment</td><td>Rs 50,000/-</td></tr> <tr> <td>(c) for losses or damage to property (except the works, plant, Materials, and Equipment) in connection with Contract</td><td>Rs 1.0 million</td><td>Rs 50,000/-</td></tr> <tr> <td>(d) for personal injury or death:</td><td>Rs 1,000,000 per employee</td><td>No Deductible</td></tr> <tr> <td>(i) of the Contractor's employees per event</td><td></td><td></td></tr> <tr> <td>(ii) of other people per event</td><td>Rs 1,000,000 per person</td><td>No Deductible</td></tr> </tbody> </table>		Minimum Insurance Amount	Maximum Deductible	(a) for the works, Plant and materials:	110% of the contract Price	Rs 50,000/-	(b) For loss or damage to equipment	Replacement value of the Equipment	Rs 50,000/-	(c) for losses or damage to property (except the works, plant, Materials, and Equipment) in connection with Contract	Rs 1.0 million	Rs 50,000/-	(d) for personal injury or death:	Rs 1,000,000 per employee	No Deductible	(i) of the Contractor's employees per event			(ii) of other people per event	Rs 1,000,000 per person	No Deductible
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Appendix to contract data

APPENDIX A

A General Conditions of Dispute Adjudication Agreement

- 1. Definitions** Each “Dispute Adjudication Agreement” is a tripartite agreement by and between:
- (a) the “Employer”;
 - (b) the “Contractor”; and
 - (c) the “Member” who is defined in the Dispute Adjudication Agreement as being one of the three persons who are jointly called the “DAB” (or “Dispute Adjudication Board”) and, where this is the case, the other two persons are called the “Other Members.”
- The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.
- 2. General Provisions** Unless otherwise stated in the Dispute Adjudication Agreement, it shall take effect on the latest of the following dates:
- (a) the Commencement Date defined in the Contract,
 - (b) when the Employer, the Contractor and the Member have each signed the Dispute Adjudication Agreement, or
 - (c) when the Employer, the Contractor and each of the Other Members have respectively each signed a Dispute Adjudication Agreement.
- This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 Days’ notice of resignation to the Employer and to the Contractor, and the Dispute Agreement shall terminate upon the expiry of this period.
- 3. Warranties** The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Engineer. The Member shall promptly disclose, to each of them and to the Other Members, any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:

- (a) experienced in the work which the Contractor is to carry out under the Contract,
- (b) experienced in the interpretation of contract documentation, and
- (c) fluent in the language for communications defined in the Contract.

**4. General
Obligations of the
Member**

The Member shall:

- (a) have no interest financial or otherwise in the Employer, the Contractor or Engineer, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members, before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Engineer, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Engineer, except as may be agreed in writing by the Employer, the Contractor and the Other Members;
- (e) comply with the annexed procedural rules and with Sub-Clause 19.4 (Obtaining Dispute Adjudication Board's Decision) of the Conditions of Contract;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a member enters into discussions or make any agreement with the Employer, the Contractor or the Engineer regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Adjudication Agreement;
- (h) ensure his/her availability for all site visits and hearings as are necessary;

- (i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members; and
- (k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members.

**5. General
Obligations of the
Employer and the
Contractor**

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members:

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DAB under Sub-Clause 19.4 (Obtaining Dispute Adjudication Board's Decision) of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the

Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for:
 - (i) being available on 28 Days' notice for all site visits and hearings;
 - (ii) becoming and remaining conversant with all project developments and maintaining relevant files;
 - (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
 - (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Adjudication Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by 50%. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Adjudication Agreement is otherwise terminated.

- (b) a daily fee which shall be considered as payment in full for:
 - (i) each day or part of a day up to a maximum of two Days travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members;
 - (ii) each working day on Site visits, hearings or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses including necessary travel expenses (hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, and faxes: a receipt

shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause.

The retainer and daily fees shall be as specified in the Dispute Adjudication Agreement. Unless it specifies otherwise, these fees shall remain fixed for the entire duration of the Contract.

The Member shall submit invoices for payment of the monthly retainer quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.7 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7. Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Adjudication Agreement by giving 42 Days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Adjudication Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Adjudication Agreement, the Member may, without prejudice to

his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 (a) - (d) above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members, for proceedings or decisions of the DAB which are rendered void or ineffective by the said failure to comply.

If the Member fails to comply with any of his obligations under Clause 4 (e) - (k) above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or decisions of the DAB which are rendered void or ineffective by the said failure to comply.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled in accordance with Arbitration Act No 11, 1995 of Sri Lanka with a sole Arbitrator.

PROCEDURAL RULES

1. Unless otherwise agreed by the Employer and the Contractor, the DAB shall visit the site at intervals of not more than 70 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DAB, the period between consecutive visits shall not be less than 35 days, except as required to convene a hearing as described below.
2. The timing of and agenda for each site visit shall be as agreed jointly by the DAB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DAB. The purpose of site visits is to enable the DAB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavor to prevent potential problems or claims from becoming disputes.
3. Site visits shall be attended by the Employer, the Contractor and the Engineer and shall be coordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DAB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.
4. The Employer and the Contractor shall furnish copy each to the members of the DAB all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DAB and the Employer or the Contractor shall be copied to the other Party.
5. If any dispute is referred to the DAB in accordance with Sub-Clause 19.4 (Obtaining Dispute Adjudication Board's Decision) of the Conditions of Contract, the DAB shall proceed in accordance with Sub-Clause 19.4 (Obtaining Dispute Adjudication Board's Decision) and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
 - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
6. The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

7. Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Engineer, and to proceed in the absence of any party who the DAB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
8. The Employer and the Contractor empower the DAB, among other things, to:
 - (a) establish the procedure to be applied in deciding a dispute,
 - (b) decide upon the DAB's own jurisdiction, and as to the scope of any dispute referred to it,
 - (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Guidelines,
 - (d) take the initiative in ascertaining the facts and matters required for a decision,
 - (e) make use of its own specialist knowledge, if any,
 - (f) decide upon the payment of financing charges in accordance with the Contract,
 - (g) decide upon any provisional relief such as interim or conservatory measures, and
 - (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute.
9. The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give its decision in accordance with Sub-Clause 19.4 (Obtaining Dispute Adjudication Board's Decision), or as otherwise agreed by the Employer and the Contractor in writing. The DAB:
 - (a) shall convene in private after a hearing, in order to have discussions and prepare its decision;
 - (b) shall endeavor to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
 - (c) Member fails to attend a meeting or hearing, or to fulfill any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or the Contractor does not agree that they do so, or
 - (ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.

DISPUTE ADJUDICATION AGREEMENT

[for each member of a three - person DAB]

Name and details of Contract

Name and address of Employer

Name and address of Contractor

Name and address of Member

Whereas the Employer and the Contractor have entered into the Contract and desire jointly to appoint the Member to act as one of the three persons who are jointly called the Dispute Adjudication Board (DAB) *[and desire the Member to act as chairman of the DAB]*

The Employer, Contractor and Member jointly agree as follows:

1. The conditions of this Dispute Adjudication Agreement comprise the “General Conditions of Dispute Adjudication Agreement” which is appended to the General Conditions of the “Standard Bidding Document, Procurement of Works, Major Contracts - Second Edition, January 2007” and the following provisions. In these provisions, which include amendments and additions to the General Conditions of Dispute Adjudication Agreement, words and expressions shall have the same meanings as are assigned to them in the General Conditions of Dispute Adjudication Agreement.
2. *[Details of amendments to the General Conditions of Dispute Adjudication Agreement, if any]*
For example:
In the procedural rules annexed to the General Conditions of Dispute Adjudication Agreement, Rule _____ is deleted and replaced by: “.....”]
- 3 In accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement the Member shall be paid as follows:
A retainer fee of _____ per calendar month,
plus a daily fee of _____ per day.
- 4 In consideration of these fees and other payments to be made by the Employer and the Contractor in accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement, the Member undertakes to serve, as described in this Dispute Adjudication Agreement, as one of the three persons who are jointly to act as the DAB.
- 5 The Employer and the Contractor jointly and severally undertake to pay the Member, in consideration of the carrying out of these services, in accordance with Clause 6 of the General Conditions of Dispute Adjudication Agreement.
- 6 This Dispute Adjudication Agreement shall be governed by the law of _____

SIGNED by: _____ SIGNED by: _____ SIGNED by: _____

for and on behalf of the for and on behalf of the the Member

employer in the presence of Contractor in the presence of in the presence of

Witness: _____ Witness: _____ Witness: _____

Name: _____ Name: _____ Name: _____

Address: _____ Address: _____ Address: _____

Date: _____ Date: _____ Date: _____

Section - 5

STANDARD FORMS (CONTRACT)

Notes on Form of Letter of Acceptance

The Letter of Acceptance will be the basis for formation of the Contract as described in Clause 34 of the Instructions to Bidders. This Form of Letter of Acceptance should be filled in and sent to the successful bidder only after evaluation of Bids and after obtaining approval from the relevant authority.

FORM OF LETTER OF ACCEPTANCE

[Letter heading paper of the procuring entity]

..... *[date]*

To: ----- *[name and address of the Contractor]* -----

This is to notify you that your bid dated ----- *[insert date]* for the construction and remedying defects of the ***Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe, DDG/TS/CON/HW/GA/GABION/45*** for the Contract price of -----*[name of currency]* -----*[amount in figures and words]* as corrected in accordance with Instructions to Bidders and/ or modified by a Memorandum of Understanding, is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract documents.

The Commencement Date shall be: *(fill the date as per Clause 8.1 of Conditions of Contract).*

The amount of Performance Security is : *(fill the amount as per Clause 4.2 of Conditions of Contract).*

The Performance Security shall be submitted on or before *(fill the date as per Clause 4.2 of Conditions of Contract).*

Authorized Signature :

Name and title of Signatory :

FORM OF AGREEMENT

This Agreement made the [day] of [month] 200..... [year], between [name and address of Employer] (hereinafter called and referred to as “the Employer”), of the one part, and [name and address of Contractor] (hereinafter called and referred to as “the Contractor”), of the other part:

Whereas the Employer desires that the Contractor execute *Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe, DDG/TS/CON/HW/GA/GABION/45*

[name and identification no of Contract] (hereinafter called and referred to as “the Works”) and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and remedying of any defects therein.

The Employer and the Contractor agree as follows::

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract.
2. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execute and complete the Works and remedy any defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and year aforementioned in accordance with laws of Sri Lanka.

.....

Authorized signature of Contractor

COMMON SEAL

.....

Authorized signature of Employer

COMMON SEAL

In the presence of

Witnesses:

1. Name and NIC No.:
Signature:
Address:
2. Name and NIC No.:
Signature:
Address:

FORM OF PERFORMANCE SECURITY
(Unconditional)

----- *[Issuing Agency's Name, and Address of Issuing Branch or Office]* -----

Beneficiary: Director General, Mahaweli Authority of Sri Lanka

Date: -----

PERFORMANCE GUARANTEE No.: -----

We have been informed that ----- *[name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. **DDG/TS/CON/HW/GA/GABION/45** dated ----- with you, for the ***Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe,*** (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we ----- *[name of Agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ----- -- *[amount in figures]* (-----) *[amount in words]*, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the day of, 2025 *[insert date, 28 days beyond the Time for Completion]* and any demand for payment under it must be received by us at this office on or before that date.

[signature(s)]

FORM OF ADVANCE PAYMENT SECURITY

----- [Name and address of Agency, and Address of Issuing Branch or Office] ----

Beneficiary: Director General, Mahaweli Authority of Sri Lanka

Date: -----

ADVANCE PAYMENT GUARANTEE No.: -----

We have been informed that ----- [name of Contractor] (hereinafter called “the Contractor”) has entered into Contract No. **DDG/TS/CON/HW/GA/GABION/45** dated ----- with you, for the **Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe** (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum ----- [amount in figures] (-----) [amount in words] is to be made against an advance payment guarantee.

At the request of the Contractor, we ----- [name of issuing agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ----- [amount in figures] (-----) [amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation in repayment of the Advance Payment under the Contract.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor.

This guarantee shall expire on [Insert the date, 28 days beyond the Time of Completion]

Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

[signature(s)]

FORM OF RETENTION MONEY GUARANTEE

----- *[Issuing Agency's Name, and Address of Issuing Branch or Office]* -----

Beneficiary: Director General, Mahaweli Authority of Sri Lanka

Date: -----

RETENTION MONEY GUARANTEE No.: -----

We have been informed that -----*[name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. **DDG/TS/CON/HW/GA/GABION/45** dated ----- with you, for the execution of ***Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe*** (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the works have being taken over and the first half of the Retention Money has been certified for payment, payment of the second half of the Retention Money may be made against a Retention Money guarantee.

At the request of the Contractor, we ----- *[name of agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of -----
--*[amount in figures]* (-----
-----) *[amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor has not attended to the defects in accordance with the Contract..

This guarantee shall expire, at the latest, ----- *[insert 28 Days after the end of the Defects Liability Period]*. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

[signature(s)]

Section - 6

SPECIFICATIONS

SPECIFICATIONS FOR CIVIL WORKS

GENERAL TECHNICAL SPECIFICATIONS

CIDA Publication No. SCA/3/1 – ‘Specifications for Irrigation and Drainage Works’ and **CIDA Publication No. SCA/4/1 – ‘Specifications for Building Works - Volume I’** are applicable as the general specification for the Civil Works of this Contract.

These publications are not issued with the Bidding Document package and the Bidder/Contractor should obtain them from a suitable source.

PARTICULAR TECHNICAL SPECIFICATIONS

1 INTRODUCTION

The following Particular Specifications are part of the requirements for the work related to the Civil Works which are to be provided according to the stipulations of the Contract. Hence, the instructions given herein form an integral part of, and are applicable to, all technical and Contract Documents issued for the Works. Addenda to these Specifications may be issued as required during the construction phase.

These Particular Technical Specifications shall be read in conjunction with General Technical Specifications (CIDA), the Conditions of Contract and the Bidding Drawings. The Contractor shall comply with all provisions contained within the Contract Documents.

The General Technical Specifications and the Particular Technical Specifications in conjunction with the Bidding Drawings define the technical standard and quality to be achieved during construction.

It is the intent of these Specifications, together with other relevant documents issued as part of the Contract Documents or to follow later on, to provide the Contractor with complete and detailed information and subsequent instructions necessary to enable him to carry out the design, where and when required, and to execute properly the work prescribed.

It is the intent of these Particular Specifications to establish acceptable standards of quality. On the other hand they shall also allow the construction of the Works in an efficient and economical way. Minor deviations in details due to selected work procedures and due to manufacturer's standard shop process will be considered for acceptance provided that, in the opinion of the Project Manager, the proposed substitutions are equal in quality to those specified.

The Drawings available shall serve as a basis for detail design drawings to be produced by the Contractor.

All work shall be executed according to the Drawings and requirements released for construction, in a professional and diligent manner, and all supplies and work shall comply with the quality requirements defined in the relevant Sections of these Specifications and other Contract Documents. The Contractor shall provide all necessary efforts to comply with the intent of the General and Particular Specifications to the satisfaction of the Project Manager.

2 CONTRACTOR'S SUBMITTALS AND PROJECT MANAGER'S APPROVAL

The Contractor shall provide the Project Manager with all submittals as requested in these Specifications and other Contract Documents. Although their extent shall be to the discretion of the Contractor, they shall be complete enough to illustrate adequately their intent and facilitate full for the understanding of the Project Manager.

At any time the Project Manager may call for additional information, completion of the submittals.

The Contractor shall submit these documents to the Project Manager so that, even if not specifically expressed, reasonable time will be given to the Project Manager to comment or approve the submittals.

The approval of the Project Manager shall always be given in written form prior to the commencement of any work under this Contract and the Contractor shall not be paid for any work that is performed without the express written approval or instruction by the Project Manager.

3 SITE INSTALLATION, SERVICES AND ENVIRONMENTAL OBLIGATIONS

3.1 General

3.1.1 Scope of work

The Contractor shall be responsible for providing plant, equipment, materials and labour for the provision of all necessary site installations, temporary works and services adequate for the realisation of the Works under this Contract.

The Contractor shall furnish, install, maintain and operate all site installations, temporary works and Contractor's equipment for his own use and for the use of the Project Manager and Subcontractors, and as required for third parties, including workshops, warehouses, storage and assembly areas, all machinery, vehicles, scaffolding, equipment, water and power supply, etc.

Site installations, temporary works and services provided by the Contractor for his own use as well as for that of the Project Manager or for third parties shall conform to the applicable standards, codes and sanitary requirements set down by the Sri Lankan authorities for such purpose.

The construction, operation and maintenance of the Contractor's site installations, temporary works and services shall be subject to inspection and written consent by the Project Manager.

All plants, facilities, installations and services for the Contractor's and Project Manager's use shall at all times remain the Contractor's property, except as specified hereinafter. Should the Contractor wish to sell his plant after the Completion of the Contract facilities and equipment in the country of the Works, he shall pay any and all taxes and duties required by law as stipulated in the Conditions of Contract.

The scope of the Works includes but is not limited to following site installation parts:

- a) All temporary structures required for the performance of the works such as access roads, temporary construction roads or temporary working platforms
- b) Stores, Warehouses, Materials Yards
- c) Materials testing laboratory
- d) Construction equipment
- e) Power supply and illumination

- f) Water supply
- g) Sanitation, sewerage and waste disposal
- h) Communication System
- i) Site security

All installations of any Subcontractors shall comply with these Specifications.

3.1.2 Submittals

Within 30 days from the date of contract award the Contractor shall submit to the Project Manager updated layout plans showing, at adequate scale, the locations and arrangement of all site installations. These plans shall be consistent with the plan submitted by the Contractor with his Bid as well as with any amendments and additions.

Within 14 days from the date of contract award the Contractor shall submit to the Project Manager an updated project schedule on paper and as soft copy in Microsoft MS Project form showing all the activities he intends to perform to meet his obligations in contract and to complete the works within its stipulated time for completion. This baseline schedule will be used for monitoring progress each month and for evaluating the impacts of any departures from the baseline schedule.

3.2 Prior to construction works

The Contractor shall carry out all necessary surveying work required for the approved performance of the works and shall ensure that the position and elevation of all works thus constructed are correct. The measuring methods and devices used must meet the standard of accuracy required for this purpose.

3.3 Access Works

The construction and maintenance of permanent and temporary access roads or access ramps from public roads to the sites, including crossings, shall be the Contractor's responsibility to the approval of the Project Manager.

In general, all roads within the site area shall be the Contractor responsibility, construction and maintenance, during the works until final handover to the Project Manager.

Proper maintenance of all roads being used by the Contractors during the entire construction period, both permanent existing ones as well as temporary roads, shall be the Contractor's responsibility.

Additional roads and ramps which have to be built to transport equipment and materials shall be constructed by the Contractor at his own expense and with the Project Manager's prior approval, and the maintenance of such roads during the construction period shall also be at the Contractor's expense. The same applies for existing public roads and bridges used by the Contractor in the vicinity of the site for the execution of the works.

Any work, improvement or modification at the existing access roads made by the Contractor, for his own convenience, and without being ordered by the Project Manager, shall be at the Contractor's own risk and expense.

If any damage or pollution occurs during the execution of the works, the Contractor must restore and clean the roads immediately at his own cost.

After completion of the Contract and before delivering the work to the Project Manager (final takeover), all temporary structures shall be removed to the satisfaction of the Project Manager.

3.4 Construction Facilities

3.4.1 Stores, warehouse, workshops and material yards

The Contractor shall provide and equip, for his own and his Subcontractors' use, warehouses, materials storage areas and fuel storage areas, all of which shall be maintained in good condition until the completion of works.

Listed hereunder are the buildings, workshops and warehouses expected to be constructed and equipped by the Contractor for use in the performance of the work under this Contract, in addition to facilities explicitly specified elsewhere in these specifications:

- a) Workshop and service facilities for vehicles and construction equipment
- b) Main warehouse and parts store
- c) Storage facilities for all materials applied within the conduction of the rehabilitation works

3.4.2 Materials testing laboratory

The Contractor shall build and equip an adequate field laboratory for the sampling and for testing of all materials as specified in the pertinent sections of the specifications.

The laboratory shall be located in a building properly equipped with electricity, water, air-conditioning/heating, etc., and shall have enough room for storing the samples tested as required by the Project Manager.

The equipment to be supplied and the methods of testing shall be in accordance with the relevant codes and standards and as approved by the Project Manager. All apparatus and equipment shall be in good working conditions, functional and manufactured by a reputable manufacturer.

The Contractor shall operate and maintain the laboratory until the Completion of Works and make all facilities and services available to the Project Manager as required. All sampling and testing to be undertaken shall be under the direct supervision of the Project Manager. The laboratory shall be run by Contractor's personnel experienced in sampling and testing of materials, and quality control.

Specialised testing which may be required and which cannot be performed in the Contractor's laboratory due to lack of time or equipment shall be assigned to an independent organisation approved by the Project Manager. The Contractor shall accept all results, instructions or restrictions stipulated by the Project Manager in writing based on such tests.

Upon completion of the works, all laboratory equipment shall remain the property of the Contractor. However, the Project Manager reserves the right to purchase some or all of the equipment by mutual agreement.

3.4.3 Construction equipment

The Contractor shall provide suitable and adequate temporary construction equipment until the completion of the works under this Contract.

A schedule including a list of quantities for temporary construction equipment has to be delivered to the Project Manager on a monthly basis for information.

Full costs of all construction equipment shall be included under the unit prices of each part of the rehabilitation works.

3.5 Utilities

3.5.1 Power supply and illumination

The Contractor shall supply, install, operate and maintain an adequate power supply system and illumination for running the site and other site installation facilities during the whole construction period. The concept shall be approved by the Project Manager.

3.5.2 Water supply

The Contractor shall provide, install, operate and maintain adequate and suitable water supplies for the works within the contract including storage for drinking purposes, sanitation, construction, cleaning, testing and commissioning of the various equipment items and plant components of the construction lot.

The water supplies shall be continuously available during working hours and rated to meet the maximum demand required during construction on the basis of 'firm supply' and shall supply all temporary installations.

The drinking water provided shall at all times meet the criteria of the local health authority.

The concept shall be approved by the Project Manager.

3.5.3 Sanitation, sewerage and waste disposal

The installations shall meet the requirements of the local health authorities and environmental regulation.

The Contractor shall collect waste material and garbage from site on a daily basis and transport it to an approved area where it shall be treated and disposed of in accordance with local environmental requirements.

The Site shall be kept clean and free of refuse at all times. No waste shall be dumped in areas other than those approved by the Project Manager for waste disposal. No waste of any kind shall be deposited in any water courses.

3.5.4 Communication systems

The Contractor shall supply, install, operate and maintain a complete telephone system satisfying all his needs and the needs of the Project Manager at site including external lines to the public switched telephone network and external connection to an internet access provider.

3.5.5 Office space

The Contractor shall supply, construct, equip and maintain an office for the sole and exclusive use of the Project Manager, fully furnished and equipped with facilities and services.

The office building shall be provided with the necessary portable fire extinguishers and service facilities necessary for normal and comfortable occupation by 6 people. The building shall be air-conditioned.

The offices shall be equipped with adequate furniture (desk, chair etc.) and fittings (electricity, lights, toilets, water etc.) for use as an office. Furthermore the office shall be equipped with an Internet connection.

The offices shall be maintained by the Contractor at his expense.

3.6 Site security

The Contractor shall employ an adequate force of trained security guards at the worksite and at the construction camp on 24-hour duty including weekends and holidays.

3.7 Demobilisation

Upon the completion of works the Contractor shall reinstate the site and dismantle and demobilize all temporary facilities erected by himself or his Subcontractors, and remove all debris, objectionable material and all other refuse which may have been deposited on site during the construction period. Such materials may be deposited only in areas approved by the Project Manager.

All excavated areas shall be filled, graded and dressed in a clean and orderly condition acceptable to the Project Manager. As far as possible such areas should conform to the natural appearance of the landscape.

3.8 Environmental obligations

The Contractor shall, during the whole period of the works comply fully with all national Sri Lankan laws and regulations relating to environmental protection, mitigating measures for reducing environmental impacts and remedial works on completion of the Works. This obligation shall extend to the construction sites themselves and all of the Contractor's site installations.

Notwithstanding any specific obligations as these may be specified in prevailing Sri Lankan laws and regulations, the Contractor shall at all times comply with the following particular requirements for the protection of the environment, the local population and the workers at the construction site:

- Collect, treat, remove from site and dispose of in accordance with the regulations and to the satisfaction of the Project Manager all domestic and industrial waste and excess construction materials (both solid and liquid), fuel, chemicals and other matter.
- Make every effort to minimise the harmful effects of transport to and from the site, in particular vehicle emissions and noise and the control of dust on roads.

The Contractor shall maintain close contact with local representatives and government institutions in addressing issues arising from the construction activities. Such issues needing particular attention are the following.

- Pollution caused by construction work
- Disruption to the local community
- Disputes related to the use of land for construction activities and/or site installations etc.
- Disputes arising from traffic congestion and restrictions on the use of the main project access road and roads in the project area
- All matters relating to road safety and the reduction to a minimum of the risk of traffic accidents.

3.9 Social obligations

As far as may be reasonably practicable, the Contractor shall recruit his unskilled labour from those persons from the local community who may apply for work. Suitably skilled workers in the local community should also be recruited wherever practicable.

4 SAFETY AND HEALTH PRECAUTIONS

4.1 General

This section covers the precautions that have to be taken for the health and safety of all personnel on Site that the Contractor and his Sub-Contractors shall apply in all civil construction and equipment erection works during the construction time.

4.2 Safety precautions

4.2.1 Safety programme and its implementation

A safety program shall detail policies, procedures, and plans which the Contractor intends implementing to ensure the safety and health of his employees. It shall comply with the standards and regulations in force in the country of the Works applicable to construction safety.

The Contractor shall designate a competent employee specially trained and experienced to act as Safety Officer, who will administer and be responsible for the implementation of the safety program. He shall carry out frequent and regular safety inspections of the working areas, materials, and equipment. The name and qualifications of the Safety Officer shall be submitted for approval to the Project Manager prior to his appointment.

The Contractor shall be responsible for the implementation of health and safety provisions for his subcontractors employed at Site.

All serious and fatal injuries and diseases caused by the progress of work shall be immediately investigated by the Contractor and a comprehensive report shall be submitted to the Project Manager.

In case of a fatal accident, only rescue and emergency teams and operations shall be permitted at the place of the occurrence until the Project Manager gives permission to resume normal operations.

4.2.2 Safety standards

In addition to the requirements of the following specified herein, the Contractor shall comply with all currently applicable safety documents and/or organizations:

4.2.3 Safety of personnel

The Contractor shall be responsible for the safety of all personnel on the Site and shall provide his employees and his sub-contractors employees working on the Site, the Project Manager's staff and all visitors to the Site with safety equipment appropriate to the tasks upon which they are engaged, including helmets, high visibility vests or jackets, safety footwear and, where required, gloves, lamps, waterproof clothing, dust masks and/or safety belts. The use of such safety equipment shall be compulsory, as deemed necessary by the Project Manager.

During drilling works and in areas where the personnel are exposed to harmful noise levels and dust, ear protectors and masks shall be furnished and required to wear.

Employees engaged in work having an inherent danger of eye or face injury shall be furnished and required to wear protection glasses, goggles or masks. Where irritant or toxic substances may come in contact with the skin or clothing, employees shall be wearing protective clothing or shall be required to apply a protective ointment by a competent physician.

Personnel working on steep slopes or otherwise subject to possible falls from levels not protected by fixed guardrail or safety nets, shall be secured by safety belts and lifelines.

Portable ladders shall be wooden or steel ladders sufficiently strong and with suitable size for the use intended. Wooden ladders shall have the steps fixed to the longitudinal posts by assembly. The use of ladders with steps nailed or wired along the longitudinal posts is not permitted.

4.2.4 Security of personnel and working areas

The Contractor shall take at all times the necessary measures to ensure the safety and security of all persons, work and property. This shall include but not be limited to the following:

- Access control to all areas related to the Works
- Installation of fences
- Security patrols

4.2.5 Maintenance of traffic and safety on roads

The Contractor shall be responsible for the safety on the roads related to the Site. He shall take all necessary precautions for the protection of the work and the safety of the public on the roads affected by his activities. Where the work will be carried out at the site of, or close to an existing road, the Contractor shall maintain the vehicular and pedestrian traffic safe at all times. If his operations can cause traffic hazards, he shall repair or fence or take other measures for ensuring safety which are satisfactory to the Project Manager.

Roads subjected to interference with the work shall be kept open or suitable detours shall be provided and maintained by the Contractor, who shall provide, erect, and maintain all necessary barricades, suitable and sufficient flashlights, flagmen, danger signals, and signs.

Roads which will be closed to traffic shall be protected by effective barricades on which acceptable warning and detour signs shall be placed. All barricades and all lights shall be kept burning from sunset to sunrise.

The Contractor shall submit his weekly activities schedule and the locations of his work along the existing public roads to the authorities concerned, and obtain all necessary approvals prior to commencement of the respective work.

The Contractor shall provide temporary passes and bridges to give an access to the existing villages, houses, etc., to the satisfaction of the Project Manager and the authorities concerned whenever he disturbs such existing ways during the execution of the Works.

4.2.6 Weather precautions

In order that the Works may proceed according to the programme, the Contractor is to undertake at his expense all necessary precautions for protection against inclement weather, which shall be subject to the approval of the Project Manager.

4.3 Health precautions

4.3.1 First aid

Prior to the commencement of construction, the Contractor shall organize and train a first aid team composed of his employees. This team shall be capable to render help after accidents.

The first aid team shall be organized in such a way that sufficient number of members will be ready for action at any time until the completion of the Works.

The team members shall be instructed and trained for their task by a qualified and experienced person. Each team member shall be skilled in giving first aid, dealing with the appliances for artificial respiration, and firefighting equipment and shall possess a good local knowledge. Adequate equipment for reaching even the remotest working area shall be at their disposal.

The Contractor shall submit the details of the proposed first aid team organization to the Project Manager for approval.

4.3.2 Noise control

The Contractor shall take the provisions required to assure that noise from his construction activities and from the operations of any plants are within the limits established by the WHO for the health of his personnel, or shall provide his personnel with ear protectors. Ear protectors shall be provided to all personnel subject to noise levels above 85 dB on a continuous basis during work shifts.

4.3.3 Ventilation of sluices

The Contractor shall furnish, install and operate ventilating systems for work in sluice barrels. Details of the proposed ventilation systems shall be submitted to the Project Manager for approval. This updated design shall include all calculations of fresh air supply volume, type of ventilation scheme, duct diameters, materials and equipment and position.

All parts of the works shall be maintained in a state which will not be injurious to the health of the personnel. The air in the sluice barrel shall contain no less than 20% oxygen and shall not contain a concentration of gases, vapours or dust greater than is safe for the health of workmen.

5 SITE SUPERVISION AND REPORTING

5.1 Site supervision

The Contractor is responsible for providing proper supervision of his site activities by employing suitably qualified and experienced site management and supervisory personnel so that he can carry out his obligations under the Contract.

For the Contractor's information, the Project Manager has issued a Construction Supervision Manual, dated August 2010, which is intended for use by the Project Manager and his staff for the supervision of the Works. This manual includes standard forms which will be used during construction for control of the work. It is available to view in the office of the Project Manager.

5.2 Monthly progress report

Before the tenth day of each month, the Contractor shall submit three copies of a monthly progress report in a form acceptable to the Project Manager detailing the progress during the preceding month. The monthly progress report shall show the amount of work completed, materials actually used, materials in storage and the cumulative results of all operations

completed or in progress and shall be summarized in terms of percentage of completion referenced to the agreed programme for the works.

The monthly progress report shall include at least the following:

- Total percentage of work completed and total percentage programmed to be completed by the end of the reporting period;
- Actual percentage of each main work item completed including temporary works, as well as their scheduled percentage, both total and for the reporting period together with the estimated quantities;
- List of manpower by trade and foreign personnel by position for the reporting period;
- List of equipment and operational days for the reporting period and materials on site at the end of the period;
- Description of weather conditions for the period including records of each rainfall duration and recorded river water levels (if any);
- List of any accident except of minor nature and any damage that occurred;
- Any matter which affected or may affect the progress of the work, problems encountered and proposed remedial measures;
- Colour photographs with imprinted date, not smaller than 100 mm by 150 mm of the work progress during the period for all major components of the Works. The Contractor shall also provide digital versions as well as 5 sets of hard copies of these photographs in albums with titles.

Further the Contractor shall submit financial statements, purchasing and expediting reports, shipping reports, and any other data which the Project Manager may reasonably ask for.

Additional to the photographs included in the progress reports, the Contractor shall arrange for the taking of progress colour photographs every month, covering all aspects of the Work. Two copies of such photographs, suitably dated and captioned, shall be submitted to the Project Manager, plus a CD with all relevant files.

The Contractor shall submit the final report not later than one month after completion of the Work. This report shall include all relevant information related to the Works in a format approved by the Project Manager. The Contractor shall submit to the Project Manager one copy of the draft report. The final report shall be submitted in triplicate. The final report shall also be made available electronically in pdf format or alternative approved format. The submission of the final report shall follow within one week of acceptance of the draft report.

6 PREPARATION OF AS-BUILT DRAWINGS

During the construction and commissioning period any variations between the "Construction Drawings" and the "As-built Drawings" shall be agreed between the Contractor and Project Manager at site.

All agreed modifications will be marked up by the Contractor's draughtsman and included on the originals at site. A complete set of these mark ups shall remain at site. The Contractor shall allow for the provision of a draughtsman as required at site to co-ordinate and include all modifications on the drawings. The originals shall then be returned to the Contractor's head office and these shall form the basis of the "As-built Drawings".

The Contractor shall submit to the Project Manager all final revisions of all original drawings depicting the “As-built” situation for the works. All drawings and documents prepared exclusively for the project shall become the property of the Project Manager.

Final drawing prints shall be size A1 or smaller. Reproducible of the final drawings shall be supplied as follows:

- 2 prints of each drawing to the Project Manager.
- 2 CDs with original AutoCAD drawing files to the Project Manager

Where drawings are reduced, an appropriate scale shall be included on the reduced print. To accompany the drawings, the Contractor shall provide a Master Schedule of “As Built” drawings.

7 CARE OF WATER

7.1 Scope of work

The Contractor shall provide all method, procedures, labour and materials necessary to protect all existing works under construction and all personnel and equipment. Further he shall design, build, install, operate, maintain and dismantle any temporary dewatering facilities required to remove service water and natural surface flow or groundwater seepage from the working areas.

7.2 Submittals

After the date of issue of the Notice to Commence, the Contractor shall present the Project Manager with conceptual details, designs, method statements, procedures and emergency plans for all required protection and dewatering systems.

7.3 Extent of the works

The work under “Care of Water” to be performed under this Contract shall include but not be limited to:

- Construction and maintenance of temporary cofferdams, drains and other protective works;
- Supply and installation, operation and maintenance of pumping systems for dewatering;
- Control and drainage of the water inflows on surfaces against which concrete shall be poured; and
- Handling of the water supply to areas downstream of the dam during construction.

Care of water during construction comprises all necessary measures to protect the works from the effects of water from any source during the construction period. The Contractor shall be fully responsible for the care of water during the construction of the works, including the construction of the upstream and downstream cofferdams, the sealing of their foundation and the handling of the water supply for the downstream users during construction.

The Contractor shall submit with his Tender his proposal and method statement for taking care of water during construction including quantity, type, capacity, arrangement, location, etc., of all required equipment.

The Contractor shall also submit with his Tender his proposal and method statement for the design and construction of the cofferdams and the handling of the water supply during construction.

All works shall be executed in accordance with the specifications of this Contract and in agreement with the Project Manager. The approval given by the Project Manager shall not relieve the Contractor from being fully responsible for the protection of the works.

7.4 Execution

7.4.1 Drainage and dewatering systems

The Contractor shall design, furnish, construct and install, operate and maintain all care of water facilities, including cofferdams, drainage systems etc. necessary to maintain all work areas as free as possible from water during construction. This shall include all necessary labour, materials, equipment, power supplies and auxiliary works as required for a safe and dry construction of the works.

The water inflow existing on surfaces or against which concrete shall be poured shall be collected through steel and/or plastic pipes or other approved methods and conveyed to drainage ditches and pits. These water collectors shall be sufficient to drain all concentrated water inflows and also possible scattered water inflow that can affect the quality of concrete at the moment of pouring.

The Project Manager's approval of any care of water facility under the Contractor's responsibility shall not relieve the Contractor of the full responsibility for any adverse event which may result from the inadequacy of failure of the protective structures.

Having served their purpose, the protective works and dewatering equipment shall be removed and all temporary drainage systems filled or plugged as directed.

7.4.2 Dewatering

General

The Contractor shall furnish, operate and maintain all necessary pumps, pipes and other dewatering devices as necessary for keeping all work areas free from water. The Contractor shall be held liable for any damage caused by failure of the drainage and dewatering systems.

The Contractor shall prepare and submit to the Project Manager the design of all temporary drainage and dewatering systems and all auxiliary works required for safe and continuous operation of the drainage and dewatering system throughout the period of the works.

The design and installation shall be such that alterations and extensions of the system during operation are possible.

Diverted or pumped water shall be discharged at locations from which it cannot re-enter the work areas and in a manner which does not cause erosion, pollution or nuisance to other persons within or adjacent to the site.

Duration of drainage and dewatering

Drainage and dewatering shall continue until construction works are completed to a stage where drainage and dewatering are no longer necessary to prevent damage to the works or neighbouring works whether from flooding, hydrostatic pressures, flotation or by any other means to prevent hindrances of any kind.

The ceasing of drainage and dewatering measures requires the approval of the Project Manager. The removal of dewatering systems and the abandoning, removal or closing of drainage systems requires the express permission of the Project Manager.

Pumping systems and power supply

To remove water from various sections of the work and to handle the water supply to areas downstream of the site, pumping systems of sufficient capacity shall be provided. This shall include the supply, installation, operation and maintenance of all items comprising the pumping system.

The Contractor shall size his power supply and distribution system to have sufficient standby capacity to continue necessary dewatering work in case of failure of his main generating system.

Ready for service condition

The Contractor shall maintain ready for service and regularly clean all dewatering equipment and accessories and shall keep all accesses clear so that they can safely be used without the risk of accidents.

7.4.3 Cofferdams

All cofferdams shall be designed, constructed and maintained by the Contractor. The complete design of the cofferdams including all calculations, specifications of materials, proposed construction procedures, provisions for protection of existing or already completed works, provisions for protection against erosion, any necessary support work shall be submitted for the approval of the Project Manager prior to the commencement of the work. No work shall be started without the written approval of the Project Manager.

The Contractor shall be entirely responsible for the water tightness and maintenance of the cofferdams, care of water as well as safety of the works including sole liability for damages due to erosion and/or piping inside the cofferdam.

Where required by the different phases of the works, the Contractor shall modify, remove or dismantle and reconstruct the cofferdams as approved or directed by the Project Manager.

On completion of the works, the Contractor shall remove or dismantle all cofferdams as approved or directed by the Project Manager. The materials shall be brought to approved location and according to the requirements of paragraph 3 of this specification.

8 SURFACE EXCAVATION

8.1 Scope of work

This section covers all surface excavation work to be performed under this Contract, which shall consist of removing all existing material of whatever nature to the lines and grades shown on the drawings or as otherwise directed by the Project Manager in writing. This work shall include excavating, ripping, loading, hauling, double handling and disposal of materials in designated spoil or stockpile areas, according to these Specifications.

8.2 Submittals

Prior to the commencement of any surface excavation, the Contractor shall submit in writing to the Project Manager details of the proposed excavation methods and sequences, including necessary safety precautions.

Prior to dumping or stockpiling any material, the Contractor shall submit in writing the layout of spoil or stockpile areas to the Project Manager and wait the approval in writing. All pertinent data of working methods and provisions for the security, stability and temporary and permanent drainage of the areas shall be included by the Contractor. Details of volumes, material types, heights and grades shall be provided.

8.3 Lines and grades

The final excavation grades shall in general be rock of specified quality. However, where the final excavation grades are defined by line and grade, the Contractor shall take every precaution and use the most appropriate method of excavation, to avoid the loosening of material or the breaking of rock beyond the lines and grades shown on the drawings. Loose weathered rock shall be removed.

The bottoms of all excavations shall be trimmed to line and grade to the satisfaction of the Project Manager.

If, for any reason, excavation is carried out beyond the lines and grades shown on the drawings, the Contractor shall remove the excess material and take the necessary measures to restore the required lines and grades with approved backfill or concrete, at his own expense.

Should the Contractor wish to excavate beyond the limits given on the drawings for his own convenience, he may do so, at his own expense but only with the prior written approval of the Project Manager.

8.4 Slopes, slides, geological over break and unsuitable foundations

If geological conditions during the performance of the work do not permit excavation of slopes as shown on the drawings, or where the material is unsuited to forming a firm foundation for the structures, the Contractor shall modify the drawings accordingly or issue a direct request to the Project Manager to change the grades. The prior written approval of the Project Manager is mandatory.

If, in the Contractor's opinion the slopes as shown on the drawings are objectionable, and in his opinion should be changed, he shall obtain the written agreement of the Project Manager prior to starting the work on such modified excavation.

If over break, slides or rock falls occur, which are due to improper working methods or negligence by the Contractor, and the effective excavated surfaces are beyond the excavation lines shown on the drawings, the Contractor shall remove all excessive material and place suitable and approved backfill material in the excavated voids. This work and material shall not be paid.

8.5 Execution

The surface excavation shall be performed by any approved method using any excavating and hauling equipment suitable for the work in accordance with the submitted detailed plans and time schedule or approved modifications thereof. The work areas shall be kept dry and drained.

The work areas shall be kept dry and drained at all times during construction.

All final or remaining surfaces shall be protected against damage by erosion and travel of the construction equipment with methods proposed by the Contractor and approved by the Project Manager in writing. Any damage caused shall be repaired by the Contractor.

The Contractor shall exercise particular care when excavating in the vicinity of existing structures or those under construction. He shall reinstate any damage to structures or equipment caused by his operations, at his own cost.

The Contractor shall protect the subsoil and particularly the ground water from contamination by fuel or oil from his equipment.

8.5.1 Clearing and grubbing

Clearing means the removal, transport and appropriate disposal of all trees, brush, stumps, fences, existing structures, spoil, debris and other obstructions in the areas to be occupied by the Permanent works, surfaces of borrow and quarry areas, spoil and stockpile areas, and where interfering with the procedure or functioning of the work.

Grubbing means the removal, transport and disposal of all roots, buried logs, foundations of structures (except concrete or masonry in mortar) and other materials foreign to the natural topsoil in the areas to be occupied by Permanent works and surfaces of borrow and quarry areas.

Clearing and grubbing work shall be performed either manually or with mechanical equipment. The Contractor shall make every reasonable effort to salvage such material which may be put to beneficial use.

All materials from clearing and grubbing work shall remain the Employer's property but the Contractor may, subject to written approval from the Project Manager, retain any material for his use. Materials which the Contractor does not wish to use shall be disposed of in an approved manner.

Materials to be burnt shall be piled neatly in such a manner and in such locations as to not cause any fire risk and shall be burnt completely so that all material is reduced to ashes.

The Contractor shall have suitable equipment and supplies for fighting fire during the burning of material and shall take all necessary precautions to prevent fire from spreading. Toxic materials such as tyres etc. shall not be burnt but disposed of in the approved manner.

8.5.2 Stripping and loose excavation

Stripping consists of removing all rubbish, humus, vegetable material and all or part of the organic topsoil in the areas and to the depth as indicated on the drawings or as otherwise directed by the Project Manager.

Loose Excavation means general excavation of material such as organic topsoil, clay, silt, sand, gravel, and boulders of up to 0.75 m³ in volume and soft or disintegrated rock, which can be removed by common earth moving equipment without ripping or blasting.

Stripping and loose excavation shall be accomplished by proper excavation and hauling equipment suitable for the work which allows for an efficient work progress adopted to the soil conditions encountered.

8.5.3 Rock excavation by ripping

Rippable material is defined as rock which can be loosened or broken down by a bulldozer capable of developing 220 kW (300 PS) of continuous power equipped with a single shank rear-mounted, heavy-duty rock ripper, operating in low gear.

Material which in the opinion of the Contractor should be removed by ripping shall be exposed, and the Project Manager notified before proceeding further. The top of the rock surface shall

be surveyed by the Contractor. The survey and classification is subject to the written approval of the Project Manager.

Contractor's failure to follow the procedure outlined above will forfeit his right to claim any classification other than that allowed by the Project Manager, who, in such case, will classify the excavated quantities.

Ripping shall be performed in such manner that the ripper tooth does not damage the material lying beyond the final excavation lines. Any material remaining to the final excavation lines shall be removed by wedging, barring, broaching or other suitable methods approved by the Project Manager.

8.5.4 Dental excavation

Dental excavation shall include the removal of unsuitable material from shear zones, clay seams, pockets, joints, cracks or from spaces between boulders beyond the lines of excavation as indicated by the Project Manager established in the field, which are too small to be excavated by common earth moving equipment.

Dental excavation, depending on its extent, will require the use of a backhoe, hand tools, or other small excavating equipment, as well as the use of a high velocity air-water jet. The methods employed shall be such as to avoid fracturing of the rock adjacent to the material being removed.

Dental excavation shall be performed where directed. The extent to which such material shall be removed including the depth, direction, and dimensions of the work, shall be determined in agreement with the Project Manager in writing. In general, however, excavation into cracks or seams shall be to the depth that is a minimum of three times the seam width and such excavation shall be backfilled with concrete. No blasting will be permitted.

8.6 Excavated materials

All suitable materials from the excavations shall be utilised to the fullest extent practicable as construction materials in permanent and temporary works, subject to the written approval of the Project Manager.

The Contractor's excavating techniques shall be such, that as much as practicable, construction materials will be yielded.

The suitable material shall be stockpiled. If the moisture content of excavated materials suitable for embankments or backfill is too high after excavation, the material shall be drained and dried in the stockpile until the moisture content is sufficiently reduced to allow placement, or vice versa moistened if too dry.

8.7 Disposal of excavated materials

Excavated material which is not suitable for, or are in excess of the construction requirements shall be disposed of in the spoil area as directed or approved by the Project Manager.

The spoil tips shall be located where they will not interfere with the natural flow of streams or rivers or other works. No rock material may be dumped into the river bed.

The Contractor shall shape and trim the stockpiles to the lines and grades as directed. Adequate diversion of water courses in such areas and proper drainage shall be provided as proposed by the Contractor and approved by the Project Manager. The Contractor shall be liable for any damage to the works or to the property of third parties caused by poor drainage in the spoil or stockpile areas.

8.8 Preparation and protection of excavation surfaces

Excavation surfaces against or upon which concrete, embankment fill, or backfill will be placed shall be prepared and protected as specified herein and in combination with specifications contained in the pertinent sections of these specifications or as shown on the drawings.

If, during excavation work, materials beyond the limits of excavation shown on the drawings are loosened or disturbed, the Contractor shall re-compact the loosened material or remove it altogether and replace it with other compacted fill or concrete as directed.

Foundation excavation shall be kept well drained and free of standing water. The Contractor shall provide all necessary drains, ditches and sumps and use pumps when necessary to ensure that foundation surfaces are not harmed by water. When foundations are thus affected, the affected material shall be removed and replaced with approved backfill.

Any support to be applied to the finished excavation surfaces where it is deemed necessary shall be carried out by the Contractor and approved by the Project Manager.

8.9 Dental filling works

Zones of unsatisfactory material below the foundation levels shown on the drawings or as directed by the Project Manager in writing which will require excavation, may be encountered.

All such material should be removed and disposed of as directed by Project Manager. Dental excavation shall consist of the removal of earth such as talus, or unsound rock in fault zones, such as soft, or highly weathered rock from below the foundation or other base excavation lines indicated on the drawings or directed by the Project Manager where the use of power excavating equipment is not practicable.

Dental work consists of the treatment and filling with concrete of all fault joints and fractures or localised loose material where dental excavation has been done. Mainly the shear zones, fault joints, fractures and cracks which should be discovered in excavation the structure foundation and where the location is considered necessary by the Project Manager shall be treated accordingly.

After excavation and cleaning with water under pressure the opening shall be filled with concrete in accordance with the related specifications. The depth of the filling shall be at least three times the width of loose zone or fault when less than 1 m wide and 1.5 to 2 times the width for those more than 1 m wide. Within the dam foundation area, faults or other discontinuities wider than 1 m shall be dealt with on an individual basis as approved by the Project Manager in writing.

8.10 Particular excavation applications

8.10.1 Excavation of parts of an existing embankment

The excavation of part of an existing embankment such as the removal of a distinct part of the crest requires special care to be taken by the Contractor. In this respect the Contractor has to take all precautions to avoid the following:

- To destroy the existing structure to a larger extent than required;
- To demolish the function of any detail of the structure; and
- To be able to re-construct the particular part.

Prior to the start of any work the Contractor shall submit to the Project Manager for written approval a method statement describing the procedure required to carry out the specific excavation. The method statement shall include but not be limited to the following:

- Excavation method (including the applied equipment, materials etc.).
- Storage procedure for the excavated materials and details regarding the protection of these.
- Description of all temporary support measures to ensure that the remaining embankment is kept unchanged, if applicable.
- Preparatory works (such as shaping of the slope) required for the reconstruction of the excavated part of the embankment.
- Reconstruction procedure in respect to the different material to be backfilled.

8.10.2 Excavation of trenches in existing embankments

The excavation of trenches such as for the removal and/or reconstruction of sluices barrels require special consideration and attention.

The excavation shall be wide enough to allow for backfill compaction parallel to the structure using heavy rolling compaction equipment. The inclination of the embankment slopes shall be as flat as possible to reduce differential strain. The final slope inclinations shall be determined by the Contractor. He shall provide evidence to the Project Manager that the inclination he intends to use is sufficient stable. No work shall start before the Contractor receives the written approval of the Project Manager.

The embankment material of the previously excavated slopes shall be cut back to well-compacted material that has not been affected by wetting or drying.

Excavation shall extent to rock foundation, where line, grade and density are uniform. Rocks and/or irregularities at the foundation contact that might create a stress concentration should be removed. Cleaning and backfilling should treat existing defects such as soft or pervious soil filling in the rock, fault gouges, fractures, erosion channels or solution cavities that cannot be removed. These defects require removal to an adequate depth and replacement with lean concrete slush grout, dental concrete or specially compacted earth fill as specified or directed by the Project Manager.

The embankment slopes as well as the foundation surfaces shall be protected until reconstruction commences.

9.1 MISCELLANEOUS FILL WORKS AND REHABILITATION MEASURES FOR EMBANKMENTS

9.1.1 General

The following paragraph deals with general requirements governing the execution of miscellaneous fill works and rehabilitation measures for embankment structures. The rehabilitation works for the embankment structure shall include but not be limited to the following:

- Reconstruction of existing layers of an embankment (particularly after the performance of other remedial measures).
- Filling of existing cracks.
- Other remedial measures within this context as directed by the Project Manager.

9.1.1.1 Standards and codes

The work included in this section shall comply with the requirements of the following standards and codes, except where this specification differs from these standards and codes, in which case the requirements of the Specification shall take precedence:

- Earth Manual of “Bureau of Reclamation” – US Department of the Interior.
- All standards of the American Society for Testing and Materials (ASTM)

9.1.1.2 Submittals

Prior to the start of any works described herein, the Contractor shall submit to the Project Manager details of the proposed methods and procedures. Daily report forms in agreed format detailing the activities shall be submitted to the Project Manager for signature.

9.1.2 Material

Material for the rehabilitation of embankments shall be equivalent to the existing surrounding material, unless agreed otherwise by the Project Manager.

Material to be double handed shall be investigated carefully in regard to possible contamination during the time of storage. If the material is considered to be inappropriate for further use, the Contractor shall propose to the Project Manager details of the material he intends to use. In both cases, either the reinstatement or use of new material, the Contractor shall not be allowed to carry out any works prior to the written approval of the Project Manager.

All applied materials shall be well graded. Material re-excavated for placement in the embankment will be subject to the same inspection as materials obtained directly from the quarry or excavation.

Preparation required to produce the materials shall include but not be limited to the combination of sieving, crushing, washing, separation and remixing of materials.

Materials shall be obtained, prepared, processed and stockpiled in such a manner that the rehabilitation works shall proceed without delay. The Contractor shall organize his operations taking into account all factors that may delay the work so that the approved schedule of the works is kept.

All applied material shall be well graded and shall be processed to be within the limits of the existing materials, unless otherwise approved by the Project Manager.

9.1.3 Equipment

9.1.3.1 Compacting equipment

The type of the compacting equipment used for embankments, fills and backfills shall be proposed by the Contractor and approved in writing by the Project Manager.

Compaction of material in areas where it is impracticable to use large equipment shall be performed by approved suitably sized small rollers, vibrating plates or hand power tampers.

9.1.3.2 Water supply and sprinkling equipment

The Contractor shall provide and maintain in perfect working condition suitable equipment such as pumps, tanks, hoses, etc. to provide water for dust prevention, for adjusting the water content of the materials and to wash in the materials as agreed with the Project Manager.

9.1.3.3 Fill material testing equipment

The Contractor shall operate and maintain an adequate field laboratory for sampling (if applicable) and testing of materials. The laboratory shall be run by the Contractor's personnel or a Subcontractor suitably qualified and approved for sampling and testing of materials and quality control. All sampling and testing to be undertaken shall be under the direct supervision of the Project Manager.

If new materials are to be applied for the rehabilitation of the embankment, the testing of materials shall be performed in the stockpiles, borrow areas and on the embankments.

Laboratory shall be equipped to perform with professional skill and care the following fill material testing:

- | | |
|---------------------------------|------------------------|
| – Grain size distribution | ASTM D 422 |
| – Moisture content | ASTM D 2216 |
| – Specific gravity & absorption | ASTM C 127 |
| – Specific gravity of soils | ASTM D 854 |
| – Compaction test (Proctor) | ASTM D 698 |
| – Relative density | ASTM D 4254 |
| – Field density test | USBR Earth Manual E-24 |

9.1.4 Construction procedures

The Contractor shall submit method statements and detailed construction schedule to the Project Manager for written approval well in advance of the start of any construction. The Contractor shall not start with any work before receiving the written approval of the Project Manager.

No material shall be placed on any portion of the area to be reconstructed until that portion has been inspected and agreed by the Project Manager.

Each load of material shall be placed to achieve the best practicable distribution of the material. The Project Manager may designate the location where the individual loads shall be placed and the Contractor shall be entitled to no additional allowance above the unit prices on account of this requirement.

Material in any zone that becomes contaminated with material from another zone, topsoil or any other objectionable material during or after placement shall be removed at the Contractor's expense.

In the event of slides or erosion in any part of the dams during construction, the Contractor shall remove material from the affected area, as instructed by the Project Manager, and shall rebuild such portion of the embankment.

9.1.5 Fill Works

The Contractor shall place and compact suitable backfill material to the lines, grades and dimensions shown on the Drawings or as directed by the Project Manager.

Material to be used as fill shall be subject to the approval of the Project Manager, and shall be, as far as possible, obtained from approved quarries. As far as possible and depending on the suitability of the material, all materials shall be sourced locally as approved by the Project Manager.

The materials to be applied shall be free from lenses, pockets, streaks or layers of material differing substantially in texture or gradation from the surrounding material. Backfill material shall not include any organic matter.

Any material which is objectionable or inadequate in the opinion of the Project Manager shall be removed by the Contractor. If the compacted surface of any layer of material is determined to be too smooth and impermeable to bond properly with the subsequent layers, it shall be loosened by harrowing or by other approved method before the succeeding layer is placed.

Backfilling adjacent to concrete structures shall not commence until 7 days after concrete placement. Prior to backfilling, forms shall be removed and the area cleaned of trash and debris. All works to be backfilled shall be inspected and approved in writing by the Project Manager prior to the start of backfilling. Backfill shall be placed in proper sequences so that no differential earth pressures occur on any structures.

The Contractor shall maintain and protect the finished backfill in satisfactory condition at all times until completion and acceptance of the work. After backfilling operations have been finished and prior to final grading, the Contractor shall slope the surfaces to prevent ponding of water.

9.1.6 Particular applications

9.1.6.1 Rehabilitation of cracks in the existing embankment

The Contractor shall with the Project Manager investigate all existing cracks in the embankment. He shall document the findings of this investigation and submit them to the Project Manager. During a site investigation the Contractor shall present all observed deficiencies to the Project Manager and explain the rehabilitation methods to be applied. These measures shall be subject to the written approval of the Project Manager.

The method statement proposed by the Contractor shall include but not be limited to the following:

- Cleaning of the crack, including the removal of any loose or foreign material
- Backfilling and re-grading of the crack with approved material by carefully controlled washing of the various layers
- Reconstruction of the slope protection layer

The material to be applied shall conform to the materials used during initial construction. The filter criteria must be maintained for all materials to be applied for the rehabilitation of the cracks. It is the Contractor's responsibility to carry out the required measurements and calculations and present these to the Project Manager for approval.

Washing-in of the material shall be carried out under controlled conditions. The Contractor shall take all precautions not to cause any harm to the existing dam structure. Any destruction caused by the works must be repaired at the expense of the Contractor.

9.1.6.2 Reconstruction of embankment layers

The Contractor shall propose methods and procedures how he intends to carry out the required remedial measures prior to the commencement of any work. The works shall not be started without the written approval of the Project Manager.

Any works to be carried out for the reconstruction of the embankment shall be conducted also under the provisions presented in the relevant Technical Specification. The Contractor shall consider all methods and requirements described herein.

All materials the Contractor intends to use shall conform to the specification presented in this section. Any material to be applied throughout the works shall be approved in writing by the Project Manager.

Throughout the works the Contractor shall take strict precautions to avoid any contamination of any material to be used.

No embankment shall be reconstructed until that portion has been inspected and approved in writing by the Project Manager.

When directed by the Project Manager, the Contractor shall remove and dispose of unsuitable material placed in the reconstruction area and material rendered unsuitable after being placed.

The thickness of the layers to be placed and the compaction required shall be determined by the Contractor and approved by the Project Manager.

Spreading and compacting of material in the vicinity of concrete structures, instrumentation or other equipment shall be performed with adequate equipment and in such a manner that no damage occurs to concrete, instrumentation or other structures. Any damage shall be repaired by the Contractor at his own expense.

9.1.6.3 Placing of rip-rap

Rip-rap shall consist of individual rock fragments, dense, sound, un weathered (only materials not susceptible to weathering shall be accepted), resistant to abrasion and free of cracks, seams and other defects that would tend to increase unduly their susceptibility to destruction by water action. Angular rock fragments shall preferably be used. Well-rounded cobbles and boulders will not be accepted excepted on very flat slopes. The minimum dimension of any single rock shall not be less than one-third to one-fourth of its maximum dimension.

Material required for rip-rap shall be obtained and selected from local sources as far as possible, as approved by the Project Manager.

Rip-rap shall be reasonable graded. Sand and rock dust may not exceed 5% of the total weight of the rip-rap material. Maximum size of the boulder shall be limited to the nominal thickness of the rip-rap.

Rip-rap shall be placed to the specified thickness in such a way to ensure that larger rock fragments are uniformly distributed, with smaller rocks filling the remaining spaces. Pockets of small stones shall be removed and replaced with larger material. Placing operations shall be such that the rip-rap layer is well-keyed, uniform and dense. End tipping from lorries or dumpers is not permitted.

Rip-rap shall be placed to the full layer thickness in one operation starting from the bottom of the slope and progressing to the top. Rip-rap shall be placed in such a manner as to minimize segregation and avoid displacing the underlying sub-base material. The finished layer shall be free from pockets of small stones, clusters of large stone and excessive voids.

Rip-rap shall be well-keyed and stable mass with adjacent stones in close contact but without alignment of longer faces so that open joints are formed. Stones shall have their greatest dimension across the slope and the smaller spaces between stones shall be left open.

9.2 GEOTEXTILE

9.2.1 Scope of work

The work consists of furnishing all material, equipment and labour necessary for the installation of geotextiles.

9.2.2 Material

Geotextile fabric shall be labelled in accordance with ASTM D 4873 and must clearly show the manufacturer's product style number and unique roll number.

Geotextile shall consist of high modulus polypropylene fibers. They shall be formed into a stable network of filaments or yarns retaining dimensional stability relative to each other. The geotextile shall be mildew-resistant, rot-proof and designed for use in separation or erosion control. The geotextile shall be free of defects, free of any chemical treatment or coating that significantly reduces its porosity. Fibres shall contain stabilizers and/or inhibitors to enhance resistance to ultraviolet light.

Geotextiles shall be classified based on the method used to place the threads or yarns forming the fabric. The geotextiles shall be grouped into woven and non-woven types:

- Woven fabrics are formed by the uniform and regular interweaving of the threads or yarns in two directions. Woven fabrics shall be manufactured from monofilament yarn formed into a uniform pattern with distinct and measurable opening, retaining their position relative to each other. The edges of fabric shall be selvedge or otherwise finished to prevent the outer yarn from unravelling.
- Nonwoven fabrics are formed by a random placement of thread in a mat and bonded by heat-bonding, resin-bonding or needle punching. Nonwoven fabrics shall be manufactured from individual fibers formed into a random pattern with distinct, but variable small openings, retaining their position relative to each other when bonded by needle punching, heat or resin bonding. The use of nonwovens is restricted and requires the prior written approval of the Project Manager.

Woven geotextile such as Macaferri Mac Text PP MXC 60, Fibertex F40, Synthetic Industries 801 (I) or similar in accordance with the following requirements shall be used:

Physical Property	Test Method	Value
Grab tensile strength	ASTM D 4632	Min. 1000 N
Grab tensile elongation	ASTM D 4632	Max. 50 %
Trapezoidal tear resistant	ASTM D 4533	Min. 350 N
Permittivity	ASTM D 4491	Min. 0.10 sec ⁻¹
Apparent opening size	ASTM D 4751	Not smaller than 0.212 mm (#70)
Puncture resistant	ASTM D 4833	Min. 400 N

All physical property requirements are MARV (Minimum Average Roll Values) determined in accordance with ASTM 4759.

9.2.3 Storage

Geotextiles shall be stored in a clean, dry location out of direct sunlight, not subject to extremes of either hot or cold temperatures and with the manufacturer's protective cover undisturbed. Receiving, storage and handling at the site shall be in accordance with the requirements listed in ASTM D 4873.

9.2.4 Surface preparation

The surface on which the geotextile is to be placed shall be graded to the neat lines and grades as shown on the drawings. It shall be reasonably smooth and free of loose rock and clods, holes, depressions, projections, muddy conditions, and standing or flowing water.

9.2.5 Placement

Before the geotextile is placed, the soil surface shall be reviewed for quality assurance of the design and construction. The Project Manager shall approve the surface preparation prior to the start of the work. The geotextile shall be placed on the approved prepared surface at the locations and in accordance with the details shown on the drawings. The geotextile shall be unrolled along the placement area and loosely laid, without stretching, in such a manner that it conforms to the surface irregularities when material or gabions are placed on or against it. The geotextile may be folded and overlapped to permit proper placement in designated area(s).

The geotextile shall be joined by overlapping a minimum of 45 cm (unless otherwise specified) and secured against the underlying foundation material. Securing pins, approved and provided by the geotextile manufacturer and the Project Manager, shall be placed along the edge of the panel or roll material to adequately hold it in place during installation. Pins shall be steel or fiberglass formed as a U, L, or T shape or contain "ears" to prevent total penetration through the geotextile. Steel washers shall be provided on all but the U-shaped pins. The upstream upslope geotextile shall overlap the abutting downslope geotextile. At vertical laps, securing pins shall be inserted through the bottom layers along a line through approximately the mid-point of the overlap. At horizontal laps and across slope laps, securing shall be inserted through the bottom layer only. Securing pins shall be placed along a line about 5 cm in from the edge of the placed geotextile at intervals not to exceed 3.5 m unless otherwise specified. Additional pins shall be installed as necessary and where appropriate to prevent any undue slippage or movement of the geotextile. The use of securing pins will be held to the minimum necessary. Pins are to remain in place unless otherwise specified.

Should the geotextile be torn or punctured, or the overlaps or sewn joint disturbed, as evidenced by visible geotextile damage, subgrade pumping, intrusion, or grade distortion, the backfill around the damaged or displaced area shall be removed and restored to the original approved condition. The repair shall consist of a patch of the same type of geotextile being used and overlaying the existing geotextile. When the geotextile seams are required to be sewn, the overlay patch shall extend a minimum of 30 cm beyond the edge of any damaged area and joined by sewing as required for the original geotextile except that the sewing shall be a minimum of 15 cm from the edge of the damaged geotextile. Geotextile panels joined by overlap shall have the patch extend a minimum of 60 cm from the edge of any damaged area.

The geotextile shall not be placed until it can be anchored and protected with the specified covering within 48 hours or protected from exposure to ultraviolet light. In no case shall material be dropped on uncovered geotextile from a height of more than 1 m.

9.3 MISCELLANEOUS

9.3.1 Clearance of vegetation

Inappropriate vegetative growth and animals are a common concern regarding the maintenance and in some rare cases also regarding the stability of the embankment slopes.

The Contractor shall undertake the following corrective measures:

General

- Trimming of vegetative growth.

Upstream slope

- Removal of dead and smaller trees with trunk perimeter <100 cm including the refurbishment of damaged embankment sections.
- Trimming of large trees with trunk perimeter ≥ 100 cm which cannot be removed due to the size of the root system.

Downstream slope

- Removal of dead and smaller trees with trunk perimeter <30 cm including the refurbishment of damaged embankment sections.
- Trimming of large trees with trunk perimeter ≥ 30 cm which cannot be removed due to the size of the root system.

9.3.2 Clearance and restoration of existing toe drain

The Contractor shall clean all areas of the existing surface drain. “Cleaning” refers to the removal of all accumulated sediments, debris, vegetation (including bushes), garbage or any other foreign material and its disposal to the satisfaction of the Project Manager and according to the provision presented in the technical specification. The attention of the Contractor is drawn particularly to paragraph “Site Installation, Services and Environmental Obligations”.

The Contractor shall take all precautions to avoid any damage to existing structure. Any destruction caused by the works carried out under this Contract shall be repaired on expense of the Contractor.

9.3.3 Removal of ant mounds

Ant colonies generally consist of a complex series of tunnels that exacerbate existing cracks leading to “softening” of the embankment and thus threatening the structural integrity of an earthen embankment.

To reduce ant populations, the Contractor shall physically destroy visible ant mounds. This can be accomplished by simply knocking down or disturbing mounds with a stick or a shovel. In a second step the anthill including the queens of the colonies shall be completely removed to the satisfaction of the Project Manager.

Fumigants and chemical treatment shall be the second step to control ant populations. Both must be purchased and applied by a certified pesticide applicator. The treatment should be tailored to the type of ant species present and the extent of infestation. The Contractor shall contact a professional pest removal company for assistance to achieve a long term solution.

After the ant population has been eradicated the area of the mound shall be be refilled with selected material according to the specifications of this document and as directed by the Project Manager.

6.0 Tree Planting

6.1 Scope of Work

The contractor is expected to attend and execute the following specific tasks during the contract period.

- i) Establishment of plantations, including clearing of land, supply of plants, preparation of pits for planting in the field, planting of viguest sapling plants in the field and shading, fertilizing and watering (if required), live fencing and making arrangement for protection of plantation.
- ii) Maintenance of established plantations for 1 years after initial tree establishment phase, including weeding, filling the vacancies of dead plants, fertilizing, watering (if required) and protection of plantation etc.,
- iii) Mobilizing local community members or groups to participate in the maintenance and protection of plantations after one year,

6.2 Specifications

- i) The spacing of plants should be selected to suit the canopy cover after fully growth depending upon the location
- ii) Healthy plants which is at least 3 Ft in height should planted in Holes 2Ft x 2Ft x 2 Ft and
The Composition of proposed planting media is as follows.

Fertile top soil borrowed from selected borrow areas should be applied as planting media with Organic fertilizer (Composed) to the ratio 1 : 1.

Fertilizer Applications:

3 times per year as follows.

NPK – 1 Ounce/plant/year

Urea 2 ounce/plant/year.

6.3 Payments

60% of payment will be made after tree establishment.

30% of payment will be made after reaching the plant height at least 05 ft or after successfully completion of 06 months maintenance period.

Balance 10% after successfully completion of 01-year maintenance period.

6.4 ENVIRONMENTAL MANAGEMENT PLAN				
Environmental Management Plan for Proposed Developments				
No	Intervention	Proposed activities	Anticipated Impacts	Mitigation measures proposed
		Common activities applicable for all interventions	Common anticipated Impacts in all interventions	
01	Canal rehabilitation	Operation of borrow site for soil extraction	Destruction of lands by soil excavation at the identified borrow sites	Proper site selection (selecting site at outside the protected area and minimum environmental cost i. Borrow site operation Rehabilitation of sites after use as follows. The sides of the pits should be sloped with a minimum angle of 1:3, to enable the escape of animals that may accidentally fall into the pits. ii. The borrow pits should be restored by filling them or when it is not practical to rehabilitate them as small tanks/water holes enabling wild animals to use as a water source iii. The earth borrowing activity at the identified site should be carried out only during the given time period of from 6.00 am to 6.00 pm iv. Borrowing earth, transportation and unloading should be carried out under the inspection of Authorized officer an officer designated by Mahaweli Authority /Irrigation Department. v. All the activities related to earth borrowing & transportation should be carried out as per the regulations laid in Fauna & Flora Protection Act - In addition to above following migratory measures should be followed: a. If the borrowing soil /clay from the any tank bed should be done

				under the guidance of the Engineers to decide the maximum depth of excavation. b. This area has to be fenced until it gets restored with a suitable material as it would sometimes pose threats to wildlife & human. c. A 15 cm topsoil will be stripped off from the borrow pit and this will be stored in stockpiles in a designated area for height not exceeding 2m and side slopes not steeper than 1:2 (Vertical: Horizontal). d. Suitable drainage ditches or conduits shall be constructed or installed to avoid conditions where small pools of water that are, or are likely to become noxious, or foul, collect or remain on the burrow area. Surface drainage must be designed to minimize erosion during runoff and major rainfall events. e. Burrow Pit shall be backfilled with clean or inert fill. There shall be no material of deleterious nature (i.e. any material that would be classed as hazardous or waste). f. Non usable material including overburden, screenings and rocks, should be placed in the pit bottom and covered with Topsoil stripped from the surface so as to facilitate water seepage, planting grass and tree planting to be carried out Once the site is reclaimed, any fences where they exist shall be removed to permit re-vegetation. g. Access and haul roads to the pit must be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed. - Above conditions should be
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				included in the contract document and must monitor whether they are followed. Cover soil materials at the transport Use of low noise machineries for excavation work Ensure apply precaution measures to avoid the seepage in to the water bodies or camp premises Cover Construction materials/soil stock piles Pullout the soil materials within dry season Place silt traps
		Soil Excavation work	Air pollution due to soil excavation and transport	
		Construction of Gabion and concrete structures	Water pollution due to seepage of cement / oil and other leakages from construction machineries in to Polgolla reservoir or camp premises	Surface soil if the barrow area not to transport to the working area Tires of the all vehicles has to be washed before left the barrow sites Avoid peak traffic times Choose alternative roads avoiding main roads Material transport vehicles while transporting materials should be covered so as not to cause any air borne dust in the critical areas.
		Stockpiling of soil and materials	Possibility of soil erosion and increase of turbidity of surface water	
		Treats of invasive species		
		Transport of materials such as soil and rubble	Possibility to spread out the invasive plants' inhabitant in barrow area	Since gravel or any other unpaved roads create air borne dust, frequent watering in the residential areas is of utmost importance. Storage area should be covered not to spread dust or wash off during unloading of material Rock quarries from where rock is obtained shall be approved by the Geological Survey and Mines Bureau and shall hold a current Environmental Protection License.
			Increase in vehicular traffic during transport of construction	

		materials Environmental Impact connected to the transport of materials Obtain necessary approvals for transport materials Archaeological and cultural properties found in work sites. Generation of noise, vibration and dust affecting the social and biological environment Damage of natural of habitat Visually damage exiting environment and disposition of silt in to the reservoir.	All necessary and adequate care shall be taken to minimize impact on archaeological and cultural properties found in work sites. No high noise generating machinery is encouraged. Extreme precautions will be taken on vibration levels as it could affect the core of the dam. Watering is necessary for any activity that causes generation of dust particles. Removing trees should be carried out as per the direction by the Irrigation Engineer accordant to the government procedures All waste should be disposed according to the sustainable methods in appropriate environmentally friendly manner as directed.
	Conducting Construction work Removing live trees and dead decayed trees with roots Disposal of construction waste and excavated material		

02	Retaining wall construction (Gabion and Concrete)	Operation of borrow site for soil extraction	Destruction of lands by soil excavation at the identified borrow sites	Proper site selection (selecting site at outside the protected area and minimum environmental cost i. Borrow site operation Rehabilitation of sites after use as follows. The sides of the pits should be sloped with a minimum angle of 1:3, to enable the escape of animals that may accidentally fall into the pits. ii. The borrow pits should be restored by filling them or when it is not practical to rehabilitate them as small tanks/water holes enabling wild animals to use as a water source iii. The earth borrowing activity at the identified site should be carried out only during the given time period of from 6.00 am to 6.00 pm iv. Borrowing earth, transportation and unloading should be carried out under the inspection of Authorized officer an officer designated by Mahaweli Authority /Irrigation Department v. All the activities related to earth borrowing & transportation should be carried out as per the regulations laid in Fauna & Flora Protection Act - In addition to above following migratory measures should be followed: a. If the borrowing soil /clay from the any tank bed should be done under the guidance of the Engineers to decide the maximum depth of excavation. b. This area has to be fenced until it gets restored with a suitable
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		Soil Excavation work	Air pollution due to soil excavation and transport	material as it would sometimes pose threats to wildlife & human. c. A 15 cm topsoil will be stripped off from the borrow pit and this will be stored in stockpiles in a designated area for height not exceeding 2m and side slopes not steeper than 1:2 (Vertical: Horizontal). d. Suitable drainage ditches or conduits shall be constructed or installed to avoid conditions where small pools of water that are, or are likely to become noxious, or foul, collect or remain on the borrow area. Surface drainage must be designed to minimize erosion during runoff and major rainfall events. e. Borrow Pit shall be backfilled with clean or inert fill. There shall be no material of deleterious nature (i.e. any material that would be classed as hazardous or waste). f. Non usable material including overburden, screenings and rocks, should be placed in the pit bottom and covered with Topsoil stripped from the surface so as to facilitate water seepage, planting grass and tree planting to be carried out Once the site is reclaimed, any fences where they exist shall be removed to permit re-vegetation. g. Access and haul roads to the pit must be restored in a mutually agreeable manner where these are
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		Construction of Gabion and concrete structures		considered unnecessary after extraction has been completed.
		Stockpiling of soil and materials	Water pollution due to seepage of cement / oil and other leakages from construction machineries in to Polgolla reservoir or camp premises	- Above conditions should be included in the contract document and must monitor whether they are followed.
		Treats of invasive species	Possibility of soil erosion and increase of turbidity of surface water	Cover soil materials at the transport
		Transport of materials such as soil and rubble	Possibility to spread out the invasive plants inhabitant in barrow area	Use of low noise machineries for excavation work
			Increase in vehicular traffic during transport of construction materials	Ensure apply precaution measures to avoid the seepage in to the water bodies or camp premises
			Environmental Impact connected to the transport of materials	Cover Construction materials/soil stock piles
			Obtain necessary approvals for transport material	Pullout the soil materials within dry season
			Archaeological and cultural properties found in work sites.	Place silt traps
				Surface soil if the barrow area not to transport to the working area
				Tires of the all vehicles has to be washed before left the barrow sites
				Avoid peak traffic times
				Choose alternative roads avoiding main roads
				Material transport vehicles while transporting materials should be covered so as not to cause any air borne dust in the critical areas.
				Since gravel or any other unpaved roads create air borne dust, frequent watering in the residential areas is of utmost importance.
				Storage area should be covered not to spread dust or wash off during unloading of material
				Rock quarries from where rock is obtained shall be approved by the Geological Survey and Mines Bureau and shall hold a current

		Conducting Construction work Removing live trees and dead decayed trees with roots Disposal of construction waste and excavated material	Generation of noise, vibration and dust affecting the social and biological environment Damage of natural of habitat Visually damage exiting environment and disposition of silt in to the reservoir.	Environmental Protection License. All necessary and adequate care shall be taken to minimize impact on archaeological and cultural properties found in work sites. No high noise generating machinery is encouraged. Extreme precautions will be taken on vibration levels as it could affect the core of the dam. Watering is necessary for any activity that causes generation of dust particles. Removing trees should be carried out as per the direction by the Irrigation Engineer accordant to the government procedures All waste should be disposed according to the sustainable methods in appropriate environmentally friendly manner as directed.
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Section - 7

FORM OF BID

Section 7 - FORM OF BID

Name of Contract: **Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe**

Contract Identification: **DDG/TS/CON/HW/GA/GABION/45**

To: ***The Director General, Mahaweli Authority of Sri Lanka***

Gentlemen:

1. Having examined the Standard Bidding Document - Procurement of Works – Major Contracts [ICTAD/SBD/02 - Second Edition, January 2007], Specifications, Drawings and Bills of Quantities and Addenda for the execution of the above-named Works, we the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bills of Quantities and addenda for the sum of Sri Lankan Rupees (LKR) 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 reasonably possible after the receipt of the Engineer'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 until the date specified in ITB Clause 16 [91 Days], and it shall remain binding upon us and may be accepted at any time before that date.
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 bid you may receive.

We certify/confirm that we comply with the eligibility requirements as per ITB Clause 3 of the bidding documents.

Dated this day of..... 20.....

Signature in the capacity of

duly authorized to sign bids for and on behalf of

[in block capitals or typed]

Address:

.....

Witness:

.....

Section - 8

BILLS OF QUANTITIES

Notes: In preparation of the bidding document the users are advised to:

- (1) Include the VAT Component separately and shall not carry the VAT component to the Form of Bid.*
- (3) Any discount offered will not be considered for Provisional Sum Items.*

A. General Information

Location of the Site

Gatambe, Kandy

Salient Features

Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe

B. Scope of Work

Civil Engineering Work

Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe

Miscellaneous Requirements

Where in the course of the execution of the Works and existing foundations, walls, sewers, drains, pipes, wires, cables and other structures, places and things are exposed or are otherwise affected by the execution of the works, they shall be properly maintained and adequately supported and protected. And expedients adopted as will prevent inconvenience and ensure the safety and continuity in use of all services, all to the approval of the Engineer.

The contractor shall provide, erect and maintain suitable and sufficient warning lights, danger signals, signs and barricades, and shall take necessary precautions for the protection of the Works and the safety of the public. Roads closed to traffic shall be protected by effective barricades and suitable diversions provided where necessary. Obstructions shall be illuminated at night from sunset until sunrise.

The contractor shall minimize the pollution of and disturbance to the river, lands and other places on and around the Site. No trees or other vegetation shall be damaged or stripped except to the extent necessary for the works.

Excavated material and other things shall not be tipped or stockpiled near rivers or in places from which they could become dislodge, whether by reason of climatic condition of otherwise. The contractor shall provide, maintain and remove on completion of the Works, setting lagoon and other facilities to minimize pollution due to his operations such as, inter alia, quarrying, aggregate washing, concrete mixing and grouting.

The contractor shall as be required by the Engineer, deliver to the Engineer or the Engineer's Representative a return in such detail and at such intervals as the Engineer may prescribe showing the delivery, consumption and stock of materials, operating hours and fuel consumption of plant, concrete returns, labor returns and similar information.

C. Preamble to the Bill of Quantities

- 1.1 The Bill of Quantities shall be read in conjunction with all parts of this entire Bidding Document; the Instructions to Bidders, General and Particular Conditions of Contract, Technical Specifications, Drawings, and supplementary information.
- 1.2 The Bill of Quantities includes lump sum items, unit price items and provisional sum items. The lump sum price quoted will be deemed to be full compensation for completion of work items and paid in full when the work is completed. The quantities given in the Bill of Quantities for the unit price items are estimated and provisional, and are given to provide a common basis for bidding. They are not intended to be the maximum or minimum quantities for payment. The unit prices will be considered full compensation for those work items. The basis of payment will be the actual quantities of work carried out under the provisions of the Contract, measured and valued at the applicable rates and prices in the priced Bill of Quantities.
- 1.3 The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction plant, equipment, labour, supervision, materials, transport, erection, maintenance, testing, insurance, overheads, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
- 1.4 A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
- 1.5 The rates and prices entered in the Bill of Quantities shall be full compensation for completed work and shall have taken full account of all requirements and obligations, covered by all parts of the contract, including but not limited to, the following, unless expressly stated otherwise:
 - a. All setting out and survey works including Pre and Post Construction Surveys.
 - b. All additional site surveys and investigations, preparation of field amendment drawings, shop drawings and As-Built drawings.
 - c. Mobilization and Demobilization of labour, all construction plant and equipment.
 - d. Establishment, Maintenance and Removal of all temporary facilities (Contractor's and Engineer's) including offices, workshops, houses, labour camps construction and storage yards, Laboratory facilities and Equipment, Transport for staff and labour etc.
 - e. Labour and all costs in connection therewith, including but not limited to social charges or fringe benefits.
 - f. The supply of material and goods, storage and costs in connection therewith including delivery to site and handling material within the site/sites.
 - g. Taking delivery of materials and goods supplied by others, unloading, storage, handling materials within site, and costs in connection therewith.

- h. Construction Plant & Equipment and all costs in connection therewith.
 - i. Fixing, erecting and installing or placing of materials and goods in position, including usual auxiliary material etc.
 - j. Temporary Works.
 - k. Complying with any limitations and constraints on the use of the site/sites including coordinating with other Contractor's, with regard to site access, security etc., maintenance of access to households and other users, maintenance of existing roads, waterways etc.
 - l. Dealing with the existing flow of water from any source including irrigation flow requirement, rainfall and surface runoff, groundwater, wave action and the like. This includes all and any dewatering operations necessary for the execution of the Works as well as coffer damming if required.
 - m. General obligations, liabilities and risks involved in the execution of the Works set forth or reasonably implied in the documents on which the tender is based.
 - n. Overheads and profit.
 - o. Waste of material.
 - p. Attendance and transport for surveys including provision of boats and survey instruments, sampling and testing carried out by the Engineer.
 - q. Performing all sampling and testing which are required to be carried out by the Contractor, and supplying results of such tests.
 - r. Providing required material delivery certificates.
 - s. Coordination with Regulatory Institutes & all stake holders.
 - t. Disposal of all waste material.
 - u. Complying with all requirements in Specifications and Conditions of Contract where separate items have not been provided.
- 1.6 Where Bill of Quantities items describe the replacement of existing equipment or components, including mechanical and electrical equipment, the equipment removed remains the property of the Employer, unless stated otherwise in the contract documents. The rates entered shall include for delivery of such equipment to the Employer or for disposal if so directed by the Employer.
- 1.7 The whole cost of complying with the provisions of the Contract (excluding VAT) shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
- 1.8 General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
- 1.9 Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part or not at all at the direction and discretion of the Engineer and in accordance with the Conditions of Contract. Where the expenditure against a

Provisional Sum is made in the form of a Variation, the payment for the work will be made in accordance with Clause 13.4 of the Conditions of Contract.

- 1.10 The method and unit of measurement of completed work for payment shall be in accordance with the method described in the specifications for each item or in the Bill of Quantities. For Lump Sum items, measurements for Interim Payment Certificates shall be based on percentage completion of such item of work or milestone as per the Contractor's proposed schedule of monthly payments, as approved by the Engineer.

D. LIST OF WORKS

1. Construction of slope stabilizing rip rap along right bank for 115m
2. Construction of Groynes at two ends of the protection

BILLS OF QUANTITIES

SUMMARY

Bill No.	Description	Amount (LKR)
Schedule.1	PRELIMINARIES	
Schedule.2	CIVIL WORK	
A	Sub Total 1 - Summary of Schedule 1 to 2	
B	Ddt: Provisional Sums	26,300,000.00
C	Sub Total 2 (A-B)	
D	Discount if any (%)	
E	Sub Total 3 (C-D+B)	
F	Provisional Sum 10% for Physical Contingencies (0.1xE)	
G	Sub Total 4 (E+F)	
H	Provisional Sum – 7 % for Price Contingencies (0.07xE)	
1.	TOTAL BID PRICE, CARRIED TO LETTER OF BID (G+H+I)	
2.	Total Bid Price (Amount in words)	
J.	VAT- 18 % of Bid Price ((I×0.18)	
GRAND TOTAL INCLUDING VAT (I+J)		
Schedule.3	DAY WORKS	
Sub Total 5 (Bid price with Day Works) (I+ Schedule 3) [Will be considered only for evaluation purposes]		

Signature of Bidder:.....

Seal:

Schedule No. 01 - Preliminaries

Item No:	Description	Unit	Qty	Rate/ (Rs.)	Amount / (Rs)	Rate in Words
1	Preliminaries					
	Insurance, Security bond and Management Services					
1.1	Allow Provisional sum for providing security bonds and guarantees etc.			Provisional sum	530,000.00	
1.2	Allow Provisional sum for providing a performance bond			Provisional sum	440,000.00	
1.3	Allow Provisional sum for insurance of property, material and works at site			Provisional sum	260,000.00	
1.4	Allow Provisional sum for third party insurance			Provisional sum	260,000.00	
1.5	Allow Provisional sum for insurance against accidents and injury to workmen			Provisional sum	260,000.00	
1.6	Allow Lump sum for Contract management services.			Lump Sum		
1.7	Allow lump sum for Protecting & safe guard the workers, materials & plants against damage, trespasses or theft.			Lump Sum		
	General Site Infrastructure and Facilities				-	
1.8	Allow for Contractor's general survey, traversing, establishing control points and bench marks, checking, repairs and replacement of survey points.			Provisional Sum	500,000.00	
1.9	Preparation of necessary access roads for construction work.			Provisional Sum	5,000,000.00	
	Infrastructure and Facilities for the Employer and the Engineer					

1.10	Preparation, operation and maintenance of Employer's and Engineer's site office including furnishing fittings, office equipment, site facilities, etc.	Provisional Sum	1,000,000.00	
1.11	Employers share of Dispute Adjudication Board (DAB) expenses.	Provisional Sum	400,000.00	
	Contractor's Site Facilities			
1.12	Preparation, operation and maintenance of contractor's site facilities, including the construction of temporary camps, site office, yards, buildings, workshops, infrastructure and services as specified (Ensuring the inclusion of all required sanitary amenities is crucial) with the removal and restoration at the end of the construction as directed by the Engineer.	Provisional Sum	2,000,000.00	
	Health and Safety			
1.13	Allow Provisional Sum to provide and maintain health, safety & environmental standards throughout the period of construction as specified.	Provisional Sum	500,000.00	
	Quality, Standards and Progress			
1.14	Provision of all progress reports and photographs in accordance with the Specifications.	Provisional Sum	100,000.00	
1.15	Provision of as built drawings as directed by the Engineer.	Provisional Sum	50,000.00	
	Total Amount of Schedule No. 1 carried to Summary			

Note : Item Nos. 1.6 will be paid based on the percentage of progress.

Schedule No. 02 – Civil Work

Item	Description	Unit	Quantity	Rate (Rs.cts.)	Amount (Rs. Cts.)	Rate in Words
	REMOVING TREES					
2.1	Removing the tree (0.5-1.0 m girth) with the root ball and debris from the site as directed by the Engineer and filling the cavity with approved soil.	Nos.	5.00			
	JUNGLE CLEARING					
2.2	Clearing & grubbing Light Jungle including removal from the site by machinery and burning as directed by the Engineer.	Ha	0.40			
	EARTH WORK					
2.3	Common excavation and haul the surplus materials as per Engineers instruction including any haul.	m ³	1890.00			
2.4	Furnishing earth from borrow areas including, placing, spreading, trimming, watering and compacting as per Engineer's instruction including any haul.	m ³	4500.00			
	CONCRETE WORK					
2.5	Cement Concrete Grade 15 (1:3:6-40mm) mixing by concrete mixer, hoisting, placing in position including vibrating excluding formwork as directed (curing as specified, providing expansion / construction joint etc, & making good after removal of formwork).	m ³	5.00			
2.6	Cement Concrete Grade 25 (1:1 1/2:3-20mm) mixing by concrete mixer, hoisting, placing in position including vibrating excluding formwork as directed (curing as specified, providing expansion/ construction joint etc, & making good after removal of form work).	m ³	23.00			

	FORMWORK					
2.7	Plywood form work including making,fixing & removing for structure.	m ²	95.00			
	REINFORCEMENT					
2.8	Cutting, Bending & Placing tor steel reinforcement bars. Rates shall be included for all laps etc. in reinforced steel other than design laps.	kg	1250.00			
2.9	REINFORCED CEMENT CONCRETE HUME PIPE					
2.10	Supplying, laying & jointing internal dimeter 450 mm long reinforced cement concrete pipe (Class NP 2 & 35 mm minimum thickness of pipe barrel) including transporting & unloading.	m	5.00			
	SLOPE PROTECTION					
2.11	Supplying well graded coarse aggregate (size between 25mm-150mm), lifting, placing, watering & compacting by machinery including transport for use of aggregate filter layer as directed by the Engineer.	m ³	1120.00			
2.12	Supplying coarse aggregate (size 25mm) lifting, placing, watering & compacting by machinery including transport for use as coarse aggregate layer under the drain bottom as directed by the Engineer.	m ³	13.00			
2.13	Supplying, piling, lifting and packing dry rubble (aggregate size between 450mm-1200 mm with 50% > 800mm) for rip rap as directed by the Engineer.	m ³	6282.50			
2.14	Supplying, piling and closely packing 600 mm thick dry rubble (aggregate size between 50mm -300 mm) by	m ³	223.00			

	manually including transport and lifting with loading & unloading.					
2.15	Supplying and laying non - woven geotextile layer under the aggregate filter layer.	m ²	3517.00			
2.16	Furnishing turf and planting using pegs including transport and watering till take roots.	m ²	120.00			
2.17	Supplying and laying 1.0m x 1.0m x 1.0m PVC coated wire gabion boxes with necessary rubble packing.					
	MISCELLANEOUS					
2.18	Supplying and fixing shoring for excavations (Trenches / Footings etc.).	m ²	375.00			
2.19	Making cofferdam including furnishing required material, removing and clearing site as directed by the Engineer	P.Sum			15,000,000.00	
2.20	Dewatering using water pump with operator if necessary.	Hr.	250.00			
	Total Amount of Schedule No. 02 is carried to the summary					

Schedule No. 03 – Day Works

No	Description	Unit	Quantity	Rate (LKR)	Amount (LKR)	Amount in words
	The day works rates quoted for labour shall be the total amounts payable, and shall include all costs such as allowances for complying with the Labour Laws, insurance, accommodation, travelling time, overtime compensation, use and maintenance of small tools of trade, supervision, overhead and profit. Only the actual time engaged in the work will be paid for.					
3.1	LABOUR					
3.1.3	Equipment Operator	Hrs.	250.00			
3.1.4	Skilled Labour	Hrs.	250.00			
3.1.5	Semi-Skilled Labour	Hrs.	350.00			
3.1.7	Unskilled Labour	Hrs.	750.00			
3.2	CONTRACTORS' EQUIPMENT					
	The rate for equipment shall include all operation and maintenance costs, fuel, oil, grease, overhead and profit. Only time actually employed upon the work will be paid for and the rates shall include compensation for normal idle time.					
	<u>Earthworks Equipment</u>					
3.2.1	Dozer (Crawler Tractor)D-4 D-41 (80-100Hp)	Hrs.	25			
3.2.2	Crawler excavator, 200 HP (2 - 3 m ³)	Hrs.	15			
3.2.3	Backhoe Loader (90 Hp) & 2WD	Hrs.	25			

No	Description	Unit	Quantity	Rate (LKR)	Amount (LKR)	Amount in words
3.2.4	1.4-1.7cube Wheeled loader (Tractor)	Hrs.	25			
	Vibrating Roller 0.5 - 1.0 ton		17			
	<u>Haulage Vehicles</u>					
3.2.5	Tipper 1 Cube (max.distance 75km per day)	Hrs.	5			
3.2.7	Tractor& Trailor 0.75 Cube	Hrs.	5			
	<u>Concrete Equipment</u>					
3.2.9	Concrete mixer, capacity 400 l	Hrs.	30			
	<u>Miscellaneous Equipment</u>					
3.2.12	Water pump complete, 4" dia. (with operator)	Hrs.	60			
	<u>Cranes</u>					
	Mobile crane, 25 T capacity	Hrs.	25			
3.3	Materials					
3.3.1	Ordinary Portland Cement	50 kg	25			
3.3.2	River Sand	cube	10			
3.3.3	Rubble 6" x 9"	cube	25			
3.3.4	Coarse aggregate 3/4" (20mm)	cube	10			

No	Description	Unit	Quantity	Rate (LKR)	Amount (LKR)	Amount in words
3.3.5	Coarse aggregate 1"(25mm)	cube	10			
3.3.6	Tor Steel Reinforcement	MT	0.25			
3.3.7	Mild Steel Reinforcement	MT	0.125			
3.3.8	Timber Plywood Sheet (15mm thick)	Nos.	25			
3.3.9	Geotextile TS30 1.5mm tk	m ²	50			
	Sub Total carried to Schedule 3. Collection					

Section - 9

SCHEDULES

Section 9 – Schedules

Schedule 1 - General Information			
(i) <i>If pre-qualification is done the bidders are required to include information subsequent to that submitted with the pre-qualification application.</i> (ii) <i>For joint ventures, each joint venture partner shall furnish information separately.</i>			
ITB Clause reference	Description	Information <i>(to be filled by the Bidder)</i>	Remarks
4.1 (a)	Legal Status		<i>Provide certified copies of Registration</i>
	Written power of attorney of the signatory to the Bid	<i>Provide original or certified copy of the power of Attorney attested by a Notary and label as attachment to Clause 4.1(a)</i>	
	If a Joint Venture, names and addresses of Joint Venture Partners	1. 2. 3.	<i>Provide a draft copy of the Joint Venture Agreement or alternatively the memorandum of understanding</i>
	If a Joint Venture, name of Lead Partner		
	<i>For joint ventures, each joint venture partner shall furnish Legal Status separately</i>		
	Name (Lead partner)		<i>Provide certified copies and label as attachment to Clause 4.1(a)</i>
	Legal status		
	Place of registration		
	Principle place of business		
	Written power of attorney of the signatory to the Bid	<i>Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1</i>	

	VAT Registration Number			
	Name (Partner 2)		<i>Provide certified copies and label as attachment to Clause 4.1 (a)</i>	
	Legal status			
	Place of registration			
	Principle place of business			
	Written power of attorney of the signatory to the Bid	<i>Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 4.1 (a)</i>		
	VAT Registration Number			
	Name (Partner 3)		<i>Provide certified copies and label as attachment to Clause 4.1 (a)</i>	
	Legal status			
	Place of registration			
	Principle place of business			
	Written power of attorney of the signatory to the Bid	<i>Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 4.1 (a)</i>		
	VAT Registration Number			
4.2 (a)	<i>CIDA Registration</i>	<i>Provide certified copies and label as attachment to Clause 4.2(a)</i>		
	Registration number			
	Grade			
	Specialty			
	Expiry Date			

Schedule 2 - Annual Turn-over Information**(Construction only – Last five years)**

- (i) *If pre-qualification is done the bidders are required to include information subsequent to that submitted with the pre-qualification application.*
- (ii) *For joint ventures, each joint venture partner shall furnish information separately.*

Year	Turn-over	Remarks
2019		<i>Attach audited annual accounts and audit reports last five years. Attach audited reports and label as attachment to Clause 4.2</i>
2020		
2021		
2022		
2023		

Schedule 3 - Adequacy of Working Capital

If pre-qualification is done the bidders are required to include information subsequent to that submitted with the pre-qualification application

Source of credit line	Amount	Remarks
		<i>Provide documentary evidence and label as attachment to Clause 4.2</i>
Total		

Schedule 4 A - Construction Experience in last five years

- (i) *If pre-qualification is done the bidders are required to include information subsequent to that submitted with the pre-qualification application.*
- (ii) *For joint ventures, each joint venture partner shall furnish information separately.*

Year	Employer	Description of Works	Amount	Contractor's Responsibility (%)
		Total		

Provide documentary evidence and label as attachment to Clause 4.2

Schedule 4 B - Similar Experience in last five years

Bidder's Legal Name: _____ Date: _____

JV Partner Legal Name: _____ Bidding No.: _____

Page _____ of _____ pages

Similar Contract Number: _____ of _____ (total number of contracts) required.	Information		
Contract Identification	_____		
Award date	_____		
Completion date	_____		
Role in Contract	☐ Contractor	☐ Management Contractor	☐ Subcontractor
Total contract amount	_____		LKR _____
If partner in a JV or subcontractor, specify participation of total contract amount	_____ %	_____	LKR _____
Employer's Name:	_____		
Address:	_____ _____ _____		
Telephone/fax number:	_____ _____		
E-mail:	_____ _____		

Schedule 4 B - Similar Experience in last five years (cont.)

Bidder's Legal Name: _____ Page _____ of _____ pages

JV Partner Legal Name: _____

Similar Contract Number: _____ of (total number of contracts) required.	Information
Description of the similarity contracts given in the Form of General Experience	
Amount	_____
Physical size	_____
Complexity	_____
Methods/Technology	_____
Physical Production Rate	_____

Schedule 5 - Major Items of Construction Equipment Proposed

Type	Capacity

Schedule 6 - Construction Management Staff

A. Key Professionals		
Name	Position	Task
B. Support Staff		
Name	Position	Task

Full-time: _____

Part-time:

Schedule 8 - Work Programme

Sheet 1 of

	<i>[1st, 2nd, etc. are months from the Start Date.]</i>													
Construction Activity	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th	13 th	14 th

Schedule 9 - Works in Hand

Contract	Name of the Employer	Description of work (attach a copy of letter of award)	Date of award of contract	Value of contract (Rs.)	Contract period	Whether extension of time has been granted	Percentage completion as at present
Contract 1							
Contract 2							
Contract 3							
Contract 4							
Contract 5							

Schedule 10 - Input percentage for Price Adjustment Format

Input Name <i>(Include major materials below the list, together with percentage for all inputs)</i>	ICTAD Reference for Indices	Percentage <i>(Percentages listed should added to 90.0)</i>
	Total	90.0

Schedule 12 - Affidavit

I (*Name of the bidder*) of
.....
..... (*addressed of the bidder*),
being a Buddhist/ Christian/ Muslim/..... (religion) do hereby solemnly,
sincerely and truly declare and affirm as follows;

1. I am the Affirmant/sworn above named.
2. My National Identity Card No. is.....
3. I hereby declare and affirm that all information furnished in our tender including details submitted in Annex-2a as Work in Hand are true and correct.

.....

Signature

The above contents were read by the
affirmant who having understood the
same, affirmed/swore to and placed his
signature in my presence at
on this day of

} Before me

}
Justice of the Peace.....

Section - 10

DRAWINGS

LIST OF DRAWINGS

No.	Description	Drawing No.
1	Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe	MDRO/EDP/CW/P RE/GW-01

Section - 11

STANDARD FORMS (BID)

- **Bid Security**

FORM OF BID SECURITY

[this Guarantee form shall be filled in accordance with the instructions indicated in brackets]

----- [insert issuing agency's name, and address of issuing branch or office]

Beneficiary: *Director General, Mahaweli Authority of Sri Lanka, 500, T.B. Jaya Mawatha, Colombo 10*

Date: ----- [insert (by issuing agency) date]

BID GUARANTEE No.: ----- [insert (by issuing agency) number]

We have been informed that ----- [insert (by issuing agency) name of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated ----- [insert (by issuing agency) date] (hereinafter called "the Bid") for the execution of **"Construction of 115m River Protection Structure Along Right Bank of Mahaweli River at the boundary of Export Agriculture Department at Gatambe"** under Invitation for Bids No. **DDG/TS/CON/HWGA/GABION/45** ("the IFB").

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we ----- [insert name of issuing agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ----- [insert amount in figures] ----- [insert amount in words]) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") of the IFB; or
- (c) having been notified of the acceptance of its Bid by the Employer/Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) the successful bidder furnishing the performance security, otherwise it will remain in force up to ----- (insert date)

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date -----

Annex - 01**Check List for Bidders**

Bidders are advised to fill the following table:

ITEM	YES (tick)	REFERENCE
Form of Bid		
Addressed to the Employer?		
Completed?		
Signed?		
Bid Security		
Submitted in the given format?		
Qualification Information		
All relevant information completed?		
Signed?		
Addendum		
Contents of the addendum (if any) taken into account?		
Other		
Affidavit completed as Schedule 11?		
Liquid Assets and/or Credit Facilities		
Construction Programme		
CV of personnel to be engaged in construction management services and key personals to be engaged in this contract.		
List of Resources intended to be deployed for this tender		
BID package		
All the documents given in ITB Clause 12 enclosed in the original and copy?		