



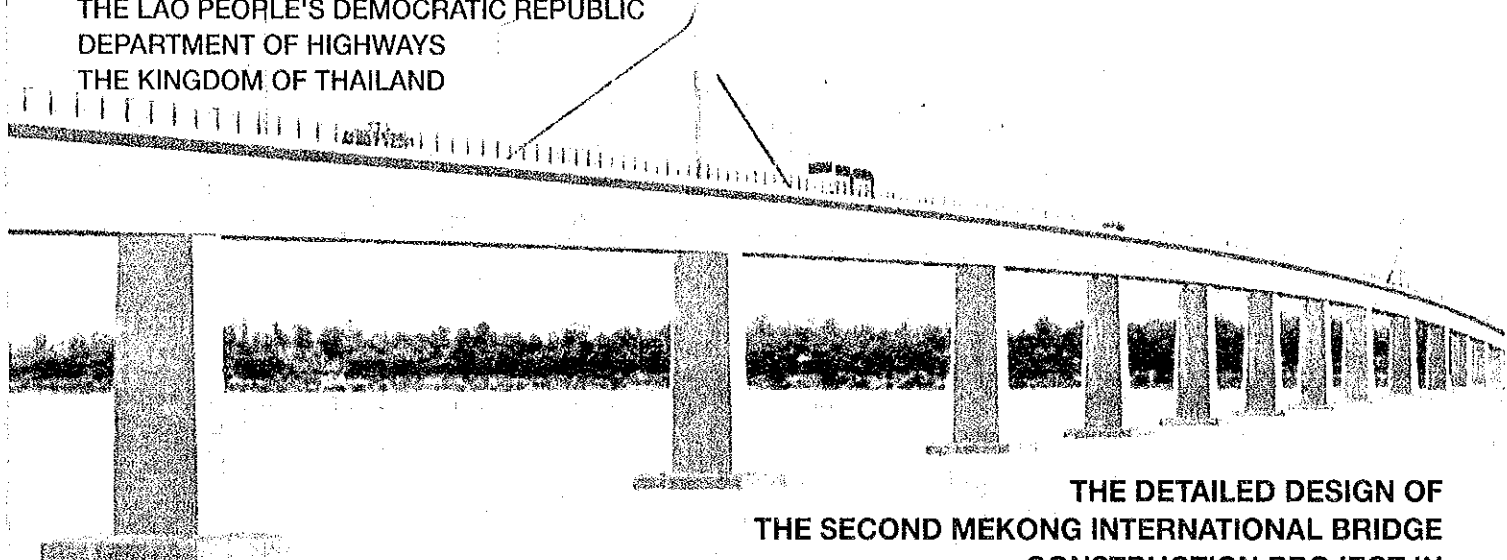
JAPAN INTERNATIONAL COOPERATION AGENCY

MINISTRY OF COMMUNICATION, TRANSPORT, POST AND CONSTRUCTION

THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

DEPARTMENT OF HIGHWAYS

THE KINGDOM OF THAILAND



THE DETAILED DESIGN OF
THE SECOND MEKONG INTERNATIONAL BRIDGE
CONSTRUCTION PROJECT IN
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC AND
THE KINGDOM OF THAILAND

FINAL REPORT

JUNE 2000



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NIPPON KOEI CO., LTD.

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FINAL REPORT
DRAFT BIDDING DOCUMENTS (PACKAGE 1)
VOLUME 3

JUNE 2000



ORIENTAL CONSULTANTS COMPANY LIMITED



NIPPON KOEI CO., LTD.



1158425 [7]

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FORM OF BID

Name of Contract: The Second Mekong International Bridge Construction Project, Package 1 :
Bridge and Approach Viaducts and Roads Works.

To : The Project Manager, Project Office for the Management of Second Mekong International
Bridge, Bangkok, Thailand.

Gentlemen:

1. Having examined the Conditions of Contract, Specification, Drawings, and Bill of Quantities and Addenda Nos.for the execution of the above-named Works we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract, Specification, Drawings, Bill of Quantities and Addenda for the sum of;

PACKAGE1A.....JAPANESE YEN

PACKAGE1B.....JAPANESE YEN

COMBINED TOTAL TENDER (1A & 1B).....JAPANESE YEN

as specified in the Appendix to Bid or such other sums as may be ascertained in accordance with the said Conditions.

2. We acknowledge that the Appendix 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 Appendix to Bid.
4. We agree to abide by this Bid for the period of 180 days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this day of (state year).....

Signature in the capacity of duly

authorized to sign bids for and on behalf of

[in block capitals or typed]

Address

Witness

Address

Occupation

APPENDIX TO BID

Sub-Clause

Amount of Performance Security	10.1	<u>10</u> percent of the Contract Price (for banker's guarantee)
Minimum amount of Third party insurance	23.2	<u>Yen25,000,000</u> per occurrence, with the number of occurrences unlimited
Time for issue of the notice to commence	41.1	Within <u>30</u> days after the Letter of Acceptance
Time for Completion	43.1	<u>36</u> calendar months after the commencement date
Amount of liquidated damage	47.1	<u>Yen1,800,000</u> per day
Limit of liquidated damages	47.1	<u>10</u> percent of the Contract Price
Defects Liability Period	49.1	<u>24</u> calendar months
Source for obtaining rates of exchange for currencies used by the bidder in calculation its bid price	72.2	-Exchange rate for US Dollar shall be the selling rate of <u>The Bank of Tokyo-Mitsubishi, Tokyo, Japan</u> -Exchange rate for Thai Baht shall be the buying rate of <u>The Krung Thai Bank, Bangkok, Thailand</u> -Exchange rate for Lao Kip shall be the buying rate of <u>The Banque pour le Commerce Extérieur Lao, Vientiane</u>
Minimum amount of Interim Monthly Payment Certificates	60.2	<u>2</u> percent of the Contract Price
Retention Money	60.5	<u>10</u> percent of Interim Monthly Payment Certificates
Advance Payment	60.7	<u>10</u> percent of the Contract Price
Start Repayment of Advance Payment	60.7	After certification of <u>30</u> percent of the Contract Price less Provisional Sums
Monthly amortization of Advance Payment	60.7	<u>20</u> percent of the amount of Interim Monthly Payment Certificates
Procedure for Settlement of Disputes ^{*1}	67	The procedure for Settlement of Dispute is: <u>Version 1</u> [insert "Version 1", "Version 2" or "Clause 67 of FIDIC General Conditions"]

	67.1	Number of members of Dispute Adjudication Board (one or three) <u>three</u>
	67.1	Member of Dispute Adjudication Board (if not agreed) to be appointed by _____ [delete when the original FIDIC Clause 67 is retained]
Number of arbitrators	67.3 (67.4 if Version 1 or Version 2)	three (3)
Place of arbitration	67.3 (67.4 if Version 1 or Version 2)	_____ [indicate country]
Language of arbitration	67.4	English
Factors for price adjustment formulae	70.3	[See table below]

Section of the Works:

Factor and Description	Value	*Range of Value
(a) Fixed	0.100	Fixed
(b) Material		
(c) Steel		
(d) Cement		
(e) General National Consumer		
(e) Asphalt		
(g) Equipment		
(h) Fuel		
	Sum = 1.000	

*Range of value is to be finalized prior to the bidding.

Sources of Indices 70.4 [See table below]

Indices for Thai Baht

Index for: (factor)	Origin of Input (country)	Currency of Index	Published Source of Index	Base Value On ___/___/___
M Materials	Thailand	Baht	Thai Ministry of Commerce	
S Steel	Thailand	Baht	Thai Ministry of Commerce	
C Cement	Thailand	Baht	Thai Ministry of Commerce	
A Asphalt	Thailand	Baht	Thai Ministry of Commerce	
E Equipment	Thailand	Baht	Thai Ministry of Commerce	
F Fuel	Thailand	Baht	Thai Ministry of Commerce	

Indices for Lao Kip

Index for: (factor)	Origin of Input (country)	Currency of Index	Published Source of Index	Base Value On ___/___/___
L Labour	Lao PDR	Kip	Ministry of Labour and Social Welfare	
M Materials	Thailand	Baht	Thai Ministry of Commerce	
S Steel	Thailand	Baht	Thai Ministry of Commerce	
C Cement	Thailand	Baht	Thai Ministry of Commerce	
A Asphalt	Thailand	Baht	Thai Ministry of Commerce	
E Equipment	Thailand	Baht	Thai Ministry of Commerce	
F Fuel	Lao PDR	Kip	Lao State Oil Company	

Contract Amount in
Various Currencies

72.2

[See Table Below]

Summary of currencies of bid in which the contract price is payable.

Currency (Name)	Percentage Payable in Currency	Rate of Exchange: One Foreign Equals "X" Local
Japanese Yen		
US Dollar		
Thai Baht		
Lao Kip		
Total	100%	

Form of Bid Security (Bank Guarantee)

WHEREAS, [Name of Bidder] (hereinafter called "the Bidder")
has submitted his bid dated [Date] for the construction of the Second
Mekong International Bridge Package 1 : Bridge and Approach Viaducts and Roads Works
(hereinafter called "the Bid").

KNOW ALL MEN by these presents that We [Name of Bank]
of [Name of Country] having our registered
office at (hereinafter called "the Bank") are
bound unto the Ministry of Communication, Transport, Post and Construction, Government of the
Lao People's Democratic Republic and the Department of Highways, Ministry of Transport and
Communications, Government of the Kingdom of Thailand (hereinafter called "the Employers) in
the sum of for which payment well and truly to be made to the
said Employer the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this day of (state year)

THE CONDITIONS of this obligation are:

- (1) If the Bidder withdraws his Bid during the period of bid validity specified in the Form of Bid: or
- (2) If the Bidder does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidders: or
- (3) If the Bidder having been notified of the acceptance of his Bid by the Employer during the period of bid validity:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders,

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 28 days after the deadline for submission of bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE SIGNATURE OF THE BANK

WITNESS SEAL

.....
(Signature, Name, and Address)

**LIST OF ELIGIBLE COUNTRIES OF
JBIC ODA LOANS**

SECTION 6 – BILL OF QUANTITIES

**PREAMBLE
TO
BILL OF QUANTITIES**

1. Attention is directed to the Form of Contract, the Conditions of Contract, the Technical Specifications and the Drawings and these documents are to be read in conjunction with the Bill of Quantities.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive value of the work described under the several items, including all costs and expenses which may be required in and for the construction of the work described, together with all general risks, liabilities and obligations set forth or implied in the documents on which the Bid is to be based.
4. The whole cost of complying with the provisions of the Contract 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.
5. 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.
6. A price or rate is to be entered against each item in the Bill of Quantities, except for those marked Not Applicable or "N/A". If a unit rate is omitted from an item being not a lump sum item, but the Estimated Amount for the item has been entered in the seventh, eighth and ninth column of the Schedule, the appropriate unit rate may be derived by division of the said estimated amount by the estimated quantity set out in the fourth and fifth column of the Schedule. Nothing contained in this Preamble to the Bill of Quantities shall in any way limit or restrict or otherwise impair the operation of the Instructions to Bidders, to which attention is particularly directed.
7. All items are measured and paid for in accordance with the measurement and payment methods described in the Technical Specifications.

8. General directions and description of works and material given in the Technical Specifications is not repeated in the Bill of Quantities. Reference is to be made to the said documents for this information.
9. All prices and rates in the Bill of Quantities must be quoted entirely in Japanese Yen and no other currency will be acceptable.
10. Abbreviations used are:

ea or each	=	Each
cu.m.	=	Cubic Meter
l	=	Liter
l.s.	=	Lump Sum
sq.m.	=	Square Meter
ton	=	Metric Ton (1000 kilograms)
l.m.	=	Linear Meter
h	=	Hour
11. Where "N/A." appears instead of figure in the column "Estimated Quantity", it means that the item does not apply to this Contract.
12. In the event of any discrepancy in item number, descriptions or units, or in quantities of work between this bidding documents and the "Summary of Quantities" forming part of the contract Drawings the details given in this bidding document shall take precedence.
13. The Bill of Quantities for Package 1 shall be separated at the center of Main Bridge which marks the point of change of ownership. Unit prices in priced Bill of Quantities shall be same between both the contracts 1A and 1B, and that overhead and profit shall be shared by the amount of the Bill of Quantities.

THE SECOND MEKONG INTERNATIONAL BRIDGE CONSTRUCTION PROJECT

PACKAGE 1

(MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS)

STA.0+950 - STA.3+645

(2.70 km.)

GRAND SUMMARY OF PRICES

NO.	SECTION	AMOUNT (YEN)		
		1A	1B	TOTAL
2	EARTH WORK			
3	SUBBASE AND BASE COURSES			
4	SURFACE COURSES			
5	STRUCTURES			
6	BRIDGE CONSTRUCTION			
7	FOUNDATION WORK			
8	INCIDENTALS			
TOTAL AMOUNT IN YEN				
GRAND TOTAL AMOUNT IN YEN (VAT 0%)				

GRAND TOTAL AMOUNT WRITTEN IN WORDS :

.....

Date : _____
 Signature : _____
 Title : _____
 On behalf of : _____
 Corporate Seal : _____

BILL OF QUANTITIES

SECTION 2 - EARTH WORK

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)			
			1A	1B		1A	1B	TOTAL	
2.1(1)	Clearing and Grubbing	sq.m.	15,016	39,721					
2.2(1)	Excavation and Embankment, Earth	cu.m.	N/A	N/A					
2.2(2)	Excavation, Unsuitable Material	cu.m.	N/A	N/A					
2.2(3)	Excavation and Embankment, Soft Rock	cu.m.	N/A	N/A					
2.2(4)	Excavation and Embankment, Hard Rock	cu.m.	N/A	N/A					
2.2(5)	Excavation, Asphaltic Concrete Pavement	cu.m.	N/A	N/A					
2.4(1)	Channel Excavation and Embankment, Earth	cu.m.	N/A	N/A					
2.4(2)	Channel Excavation and Embankment, Soft Rock	cu.m.	N/A	N/A					
2.4(3)	Channel Excavation and Embankment, Hard Rock	cu.m.	N/A	N/A					
2.5(1)	Structure Excavation, Type 1 Unclassified	cu.m.	2,289	2,763					
2.5(2)	Structure Excavation, Type 2 Unclassified	cu.m.	1,599	2,979					
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN				

BILL OF QUANTITIES

SECTION 2 - EARTH WORK

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
2.5(3)	Bailing Stone	cu.m.	72	83				
2.6(1)	Embankment by Borrow Material	cu.m.	27,842	83,680				
2.6(2)	Earth Fill in Median Island and Shoulder	cu.m.	145	1,298				
TRANSFER SECTION 2 TOTAL TO SUMMARY OF PRICES					TOTAL YEN			

BILL OF QUANTITIES

SECTION 3 - SUBBASE AND BASE COURSES

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
3.1(1)	Subbase	cu.m.	1,038	1,039				
							
							
3.1(2)	Sand Layer Cushion	cu.m.	N/A	557				
							
							
3.2(1)	Aggregate Base Course	cu.m.	788	192				
							
							
TRANSFER SECTION 3 TOTAL TO SUMMARY OF PRICES					TOTAL YEN			

BILL OF QUANTITIES

SECTION 4 - SURFACE COURSES

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
4.2(1)	Asphaltic Prime Coat	sq.m.	3,972	1,240				
4.3(1)	Asphaltic Tack Coat	sq.m.	2,239	960				
4.4(1)	Asphaltic Concrete for Wearing Course	cu.m.	650	529				
4.4(2)	Asphaltic Concrete for Binder Course	cu.m.	446	467				
4.5(1)	Portland Cement Concrete Pavement, 25 cm	sq.m.	N/A	4,765				
TRANSFER SECTION 4 TOTAL TO SUMMARY OF PRICES								
						TOTAL YEN		

BILL OF QUANTITIES

SECTION 5 - STRUCTURES

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
5.1(1)	Concrete Class A - 2 (Tower PC. Sail)	cu.m.	395	395				
5.1(2)	Concrete Class A - 3 (Pier Head)	cu.m.	454	454				
5.1(3)	Concrete Class A-4 (Approach Viaduct)	cu.m.	1,859	2,318				
5.1(4)	Concrete Class C - 1 (RC. Rigid Pier of Main Bridge)	cu.m.	1,271	1,271				
5.1(5)	Concrete Class D - 1 (RC. Movable Pier of Main Bridge in River)	cu.m.	1,746	1,746				
5.1(6)	Concrete Class D - 2 (RC. Pile Cap of Main Bridge in River)	cu.m.	3,460	3,460				
5.1(7)	Concrete Class D - 3 (RC. Pier of Approach Viaducts, Main Bridge in River)	cu.m.	775	949				
5.1(8)	Concrete Class D - 4 (RC. Pile Cap of Approach Viaducts, Main Bridge in Land)	cu.m.	945	1,118				
5.1(9)	Concrete Class D - 5 (Abutment)	cu.m.	191	191				
5.1(10)	Concrete Class F - 1 (Lean concrete)	cu.m.	45	53				
5.1(11)	Closure Pour t=0.50m	each	6	7				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 5 - STRUCTURES

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
5.1(12)	Closure Pour t=2.00m	each	1	1				
5.1(13)	Closure Pour t=3.00m	each	2	2				
5.1(14)	Bridge Approach Slab	sq.m.	90	90				
5.1(15)	Precast RC. Skirting of Main Bridge Pile Cap	sq.m.	1,824	1,824				
5.2(1)	SD-390A (Reinforcing Bar of Reinforce Concrete Structure)	ton	1,177	1,265				
5.2(2)	SD-390Y (Reinforcing Bar of pile foundation)	l.m.	681	677				
5.3(1)	Pre-stressing Strand; 19-15.2 mm. Diameter(SWPR7B) for PC. Sail of Main Bridge	ton	13.60	13.60				
5.3(2)	Pre-stressing Strand; 19-15.2 mm. Diameter for Main Bridge outer cable	ton	154.88	149.72				
5.3(3)	Pre-stressing Strand; 12-15.2 mm. Diameter for Main Bridge Inner Cable	ton	327.95	319.75				
5.3(4)	Pre-stressing Strand; 12-15.2 mm. Diameter for Approach Viaduct	ton	54.63	67.97				
5.3(5)	Pre-stressing Strand; 4-15.2 mm. Diameter for Deck Slab	ton	99.59	103.99				
TRANSFER SECTION 5 TOTAL TO SUMMARY OF PRICES					TOTAL YEN			

BILL OF QUANTITIES

SECTION 6 - BRIDGE CONSTRUCTION

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)			
			1A	1B		1A	1B	TOTAL	
6.1(1)	Precast Segment (Stored)	each	266	267					
6.1(2)	Precast Segment (in place)	each	266	267					
6.2(1)	Type 1 Fixed Type Bearing Shoe (Approach Viaduct) ~ 7500kN	each	2	2					
6.2(2)	Type 2 Sliding Type Bearing Shoe (Approach Viaduct) ~ 3500kN	each	4	4					
6.2(3)	Type 3 Sliding Type Bearing Shoe (Approach Viaduct) ~ 8000kN	each	4	6					
6.2(4)	Type 4 Sliding Type Bearing Shoe (Main Bridge) ~ 3500kN	each	2	2					
6.2(5)	Type 5 Sliding Type Bearing Shoe (Main Bridge) ~ 12,500kN	each	4	4					
6.2(6)	Type 6 Sliding Type Bearing Shoe (Main Bridge) ~ 13,500kN	each	8	6					
6.2(7)	Type 7 Sliding Type Bearing Shoe (Main Bridge) ~ 15,500kN	each	N/A	2					
6.2(8)	Type 8 Sliding Type Bearing Shoe (Main Bridge) ~ 3,000kN	each	N/A	2					
6.3(1)	Tie-rod Stopper	each	N/A	2					
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN				

BILL OF QUANTITIES

SECTION 6 - BRIDGE CONSTRUCTION

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)			
			1A	1B		1A	1B	TOTAL	
6.4(1)	Expansion Device - Type 1	each	1	2					
6.4(2)	Expansion Device - Type 2	each	1	1					
6.5(1)	Bridge Railing	l.m.	2,000	2,100					
6.6(1)	Concrete Curb	l.m.	1,997	2,095					
6.6(2)	Precast RC. Slab	l.m.	1,997	2,095					
6.6(3)	Concrete Median - Type 1	l.m.	880	929					
6.6(4)	Concrete Median - Type 2	each	2	2					
6.6(5)	Concrete Barrier	l.m.	230	230					
6.7(1)	Bridge Parapet	l.m.	19	19					
6.8(1)	Drain Pipe PVC - Type 1(φ 150)	l.m.	110	116					
6.8(2)	Drain Pipe PVC - Type 2(φ 150)	l.m.	80	84					
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN				

BILL OF QUANTITIES

SECTION 6 - BRIDGE CONSTRUCTION

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)			
			1A	1B		1A	1B	TOTAL	
6.8(3)	Bridge Deck Waterproofing	sq.m.	11,152	11,681					
6.9(1)	Tower and PC Sail Paint	sq.m.	1,201	1,201					
6.10(1)	Steel Door - Type 1	each	3	3					
6.10(2)	Steel Door - Type 2	each	N/A	2					
6.11(1)	Flagpole	each	2	2					
6.12(1)	Bronze Bridge Name Plaque	each	2	2					
6.13(1).1	Bridge Street Lighting, Cable, Conduit, Pull Box, Accessories to Supply Pillare Panel L	each	32	N/A					
6.13(1).2	Bridge Street Lighting, Cable, Conduit, Pull Box, Accessories to Supply Pillare Panel T	each	N/A	33					
6.13(2).1	Tower Lighting, Cable, Conduit, Accessories to Supply Pillar Panel L	each	2	N/A					
6.13(2).2	Tower Lighting, Cable, Conduit, Accessories to Supply Pillar Panel T	each	N/A	2					
6.13(3).1	PC Sail Lighting, Cable, Conduit, Accessories to Supply Pillar Panel L	each	4	N/A					
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN				

BILL OF QUANTITIES

SECTION 6 - BRIDGE CONSTRUCTION

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
6.13(3).2	PC Sail Lighting, Cable, Conduit, Accessories to Supply Pillar Panel T	each	N/A	4				
6.13(4).1	Pier Lighting, Cable, Conduit, Accessories to Supply Pillar Panel L	each	16	N/A				
6.13(4).2	Pier Lighting, Cable, Conduit, Accessories to Supply Pillar Panel T	each	N/A	16				
6.13(5).1	Navigation Lighting, Cable, Conduit, Accessories to Supply Pillar Panel L	each	12	N/A				
6.13(5).2	Navigation Lighting, Cable, Conduit, Accessories to Supply Pillar Panel T	each	N/A	12				
6.13(6).1	Supply Pillars, Panel, Foundation, Drawpits, Cable, Accessories to Power Source L	each	1	N/A				
6.13(6).2	Supply Pillars, Panel, Foundation, Drawpits, Cable, Accessories to Power Source T	each	N/A	1				
6.13(7).1	Emergency Telephone Completed with Foundation, Cable, Conduit, Accessories to PABX at BCF L	each	1	N/A				
6.13(7).2	Emergency Telephone Completed with Foundation, Cable, Conduit, Accessories to PABX at BCF T	each	N/A	1				
TRANSFER SECTION 6 TOTAL TO SUMMARY OF PRICES								
						TOTAL YEN		

BILL OF QUANTITIES

SECTION 7 - FOUNDATION WORK

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
7.1(1)	2.0m Diameter Bored Cast-In-Place Concrete Pile to River Piers P7 to P22 Inclusive	l.m.	813	780				
7.2(1)	1.0m Diameter Bored Cast-In-Place Pile Viaduct Structure and Abutments	l.m.	481	674				
7.3(1)	SPT Test at 1.5m. Meter Interval	each	74	97				
7.3(2)	Boring in Sand, Gravel and Clay (N<50)	l.m.	95	134				
7.3(3)	Boring in Rock (N>50)	l.m.	41	42				
7.3(4)	Testing of Rock Sample	each	7	7				
TRANSFER SECTION 7 TOTAL TO SUMMARY OF PRICES					TOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.1(1)	Gabion Mattress (l=50cm)	sq.m.	4,134	4,437				
8.1(2)	Stairs on Riverbank Protection	l.m.	34	36				
8.1(3)	RC. Chute Drain on Riverbank Protection	each	1	N/A				
8.2(1)	Subdrain, Perforated PVC Pipe, 15cm diameter	l.m.	N/A	N/A				
8.3(1).1	Reinforced Concrete Pipe, 40cm Diameter L	l.m.	N/A	N/A				
8.3(1).2	Reinforced Concrete Pipe, 40cm diameter T	l.m.	N/A	22				
8.3(1).3	Reinforced Concrete Pipe, 60cm diameter L	l.m.	5	N/A				
8.3(1).4	Reinforced Concrete Pipe, 60cm diameter T	l.m.	N/A	26				
8.3(1).5	Reinforced Concrete Pipe, 80cm diameter L	l.m.	N/A	N/A				
8.3(1).6	Reinforced Concrete Pipe, 80cm diameter T	l.m.	N/A	6				
8.3(1).7	Reinforced Concrete Pipe, 100cm diameter L	l.m.	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.3(1).8	Reinforced Concrete Pipe, 100cm diameter T	l.m.	N/A	N/A				
8.3(1).9	Reinforced Concrete Pipe, 120cm diameter L	l.m.	N/A	N/A				
8.3(1).10	Reinforced Concrete Pipe, 120cm diameter T	l.m.	N/A	N/A				
8.3(1).11	Reinforced Concrete Pipe, 150cm diameter L	l.m.	55	N/A				
8.3(1).12	Reinforced Concrete Pipe, 150cm diameter T	l.m.	N/A	N/A				
8.3(2)	RC. Pipe Headwall, Reinforced Concrete	cu.m.	2	N/A				
8.3(3).1	Box Culvert, 2.40x2.40m, at Sta.0+980.000 T	l.m.	N/A	42				
8.3(3).2	Box Culvert, 3x3.60x3.60m, at Sta.1+017.000 T	l.m.	N/A	62				
8.3(3).3	Box Culvert, 2.50x2.50m, at Sta.4+781.000 L	l.m.	N/A	N/A				
8.3(3).4	RC. U-Wall for Rc.Box Culvert T	l.m.	N/A	20				
8.3(4).1	Reinforced Concrete U-ditch, 0.30mx0.30m	l.m.	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)			
			1A	1B		1A	1B	TOTAL	
8.3(4).2	Reinforced Concrete U-ditch, 0.30mx0.50m L.....	l.m.	N/A	N/A					
8.3(4).3	Reinforced Concrete U-ditch, 0.30mx0.50m T.....	l.m.	N/A	N/A					
8.3(4).4	Reinforced Concrete U-ditch, 0.30mx0.80m T.....	l.m.	N/A	N/A					
8.3(4).5	Reinforced Concrete U-ditch, 0.45mx0.45m L.....	l.m.	196	N/A					
8.3(4).6	Reinforced Concrete U-ditch, 0.50mx0.50m T.....	l.m.	N/A	966					
8.3(4).7	Reinforced Concrete U-ditch, 0.50mx0.50m T with RC. Cover	l.m.	N/A	N/A					
8.3(4).8	Reinforced Concrete U-ditch, 0.50mx0.60m T.....	l.m.	N/A	N/A					
8.3(4).9	Reinforced Concrete U-ditch, 0.50mx0.80m L/T, with RC. Cover, Type B1	l.m.	N/A	N/A					
8.3(4).10	Reinforced Concrete U-ditch, 0.50mx0.80m L/T, with RC. Cover, Type B2	l.m.	N/A	N/A					
8.3(4).11	Reinforced Concrete U-ditch, 0.60mx0.60m T.....	l.m.	N/A	243					
8.3(4).12	Reinforced Concrete U-ditch, 1.00mx1.00m L.....	l.m.	198	N/A					
8.3(4).13	Reinforced Concrete U-ditch, 1.10mx1.00m L.....	l.m.	215	N/A					
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN				

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.3(4).14	Reinforced Concrete U-ditch, 1.20mx1.20m T	l.m.	N/A	156				
8.3(4).15	Reinforced Concrete U-ditch, 1.20mx1.20m T, with RC Cover	l.m.	N/A	10				
8.3(4).16	Reinforced Concrete U-ditch, 1.30mx1.00m L	l.m.	262	N/A				
8.3(5).1	Reinforced Concrete Chute Drain 0.4mx0.4m T	l.m.	N/A	22				
8.3(5).2	Reinforced Concrete Chute Drain 1.0mx1.0m L	l.m.	N/A	N/A				
8.3(5).3	Reinforced Concrete Chute Drain 1.0mx1.0m T	l.m.	N/A	24				
8.3(6).1	Reinforced Concrete Side Ditch	l.m.	N/A	120				
8.3(6).2	Stone Masonry T=20cm for Open Side Ditch	sq.m.	N/A	N/A				
8.3(7).1	Manholes, 0.8m=< W < 1.0m with RC Cover	l.m.	N/A	243				
8.3(7).2	Manholes, 0.8m =< W < 1.0m with Steel Grating	each	N/A	N/A				
8.3(7).3	Manholes, 1.0m =< W with RC Cover	each	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.3(7).4	Manholes, 1.0m =< W with Steel Grating	each	N/A	N/A				
8.3(8).1	Catch Basin 0.6m x 0.6m T	each	N/A	N/A				
8.3(8).2	Catch Basin 0.7m x 0.7m T	each	N/A	18				
8.3(8).3	Catch Basin 1.0m x 1.0m T	each	N/A	7				
8.3(8).4	Catch Basin 1.5m x 1.6m L	each	1	N/A				
8.3(8).5	Catch Basin 1.5m x 1.7m L	each	N/A	N/A				
8.3(8).6	Catch Basin 1.5m x 1.9m L	each	1	N/A				
8.3(8).7	Catch Basin 1.2m x 1.2m L	each	1	N/A				
8.3(9)	Drop Inlet 1.0m x 1.6m L	each	N/A	N/A				
8.3(10).1	Curb Inlet and Side Inlet Drain L	l.m.	N/A	N/A				
8.3(10).2	Curb Inlet and Side Inlet Drain T	l.m.	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.3(10).3	Inlet Drain RC Rectangular Pipe	l.m.	N/A	N/A				
8.4(1)1.	Concrete Curb Type 1	l.m.	N/A	N/A				
8.4(1)2.	Concrete Curb Type 2	l.m.	N/A	188				
8.4(1)3.	Concrete Curb Type 3	l.m.	N/A	N/A				
8.4(1)4.	Concrete Curb Type 4	l.m.	170	79				
8.4(2)	Curb and Concrete Barrier Markings	sq.m.	162	156				
8.5(1)	Concrete Paving Block for Sidewalk	sq.m.	N/A	339				
8.6(1)	Block Sodding	sq.m.	4,466	19,720				
8.6(2)	Strip Sodding	sq.m.	N/A	N/A				
8.7(1)	Steel Guard Rail, W-Beam	l.m.	492	1,516				
8.8(1)	Topsoil	cu.m.	447	1,915				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.9(1)	Security Fence L	l.m.	450	N/A				
8.9(2)	Security Fence T	l.m.	N/A	1,150				
8.9(3)	Barbed Wire Fence	l.m.	N/A	103				
8.9(4)	Net Fence	l.m.	N/A	N/A				
8.9(5)	Custom Checkpoint Gate	each	N/A	N/A				
8.9(6)	Minor Gate	each	N/A	N/A				
8.9(7)	Main Gate	each	N/A	N/A				
8.9(8)	Permanent Timber Barricade	l.m.	N/A	N/A				
8.9(9)	Handrail	l.m.	150	340				
8.10(1)	Guide Post	each	N/A	N/A				
8.11(1)	Concrete Post And Foundation For Road Sign, Size 0.12x0.12m	l.m.	N/A	45				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET						SUBTOTAL YEN		

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.11(2)	Concrete Post And Foundation For Road Sign, Size 0.15x0.15m	l.m.	N/A	N/A				
8.11(3)	Steel Post And Foundation For Road Sign, Type L1	each	N/A	N/A				
8.11(4)	Steel Post And Foundation For Road Sign, Type L2	each	N/A	N/A				
8.11(5)	Steel Post And Foundation For Road Sign, Type L3	each	N/A	N/A				
8.11(6)	Steel Post For Road Sign, On Bridge	each	2	2				
8.11(7)	Steel Post And Foundation For Overhanging Sign, Type L	each	N/A	N/A				
8.11(8)	Steel Post And Foundation For Overhanging Sign, Type T1	each	N/A	N/A				
8.11(9)	Steel Post And Foundation For Overhanging Sign, Type T2	each	N/A	N/A				
8.11(10)	Steel Post And Foundation For Overhanging Sign, Type T3	each	N/A	N/A				
8.11(11)	Steel Frame And Foundation For Overhead Sign	each	N/A	N/A				
8.11(12)	Road Signs L	sq.m.	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET						SUBTOTAL YEN		

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.11(13)	Road Signs T	sq.m.	N/A	7				
8.11(14)	Overhanging Signs L	sq.m.	N/A	N/A				
8.11(15)	Overhanging Signs T	sq.m.	N/A	N/A				
8.11(16)	Overhead Signs	sq.m.	N/A	N/A				
8.12(1)	10m Tapered Steel Pole with One High Pressure Sodium Lamp	each	6	N/A				
8.12(2)	High Mast with Lanterns for Lao PDR Side Connecting Road	each	N/A	28				
8.12(3)	Electric Facilities for Street Lighting, SP1	ls.	N/A	N/A				
8.12(4)	Electric Facilities for Street Lighting, SP2	l.s.	N/A	N/A				
8.12(5)	Electric Facilities for Street Lighting, SP5	l.s.	N/A	1				
8.12(6)	Electric Facilities for Street Lighting, SP6	l.s.	1	N/A				
8.12(7)	Electric Facilities for Street Lighting, SP7	l.s.	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.12(8)	Electric Facilities for Street Lighting, SP8	l.s.	N/A	N/A				
8.12(9)	Electric Facilities for Street Lighting, SP78	l.s.	N/A	N/A				
8.12(10)	Electric Facilities for Street Lighting, SP78	l.s.	N/A	N/A				
8.13(1)	Traffic Signals at Sta. 1+120.000	l.s.	N/A	1				
8.14(1)	Road Marking Without Reflectorized Beads	sq.m.	N/A	N/A				
8.14(2)	Road Marking With Reflectorized Beads	sq.m.	531	679				
8.15(1)	Planting Palm Tree	each	N/A	N/A				
8.15(2)	Planting Champa	each	N/A	N/A				
8.15(3)	Planting Paper Tree	each	N/A	N/A				
8.15(4)	Planting Shrub	each	N/A	N/A				
8.15(5)	Planting Chaiyaphruk (Koon) (Cassia Fistula L.)	each	N/A	N/A				
CARRY SUBTOTAL FORWARD TO FOLLOWING SHEET					SUBTOTAL YEN			

BILL OF QUANTITIES

SECTION 8 - INCIDENTALS

PACKAGE 1

MAIN BRIDGE, APPROACH VIADUCTS AND ROAD WORKS

ITEM NO.	DESCRIPTION (with unit price written in words)	UNIT	QUANTITY		UNIT PRICE	AMOUNT (YEN)		
			1A	1B		1A	1B	TOTAL
8.15(6)	Planting Parad Ooban	each	N/A	N/A				
8.15(7)	Planting Rajcha Phruk	each	N/A	N/A				
8.15(8)	Planting Kalapa Phruk	each	N/A	N/A				
8.15(9)	Planting Songbadarn	each	N/A	N/A				
8.16(1)	Kilometer Post L	each	N/A	N/A				
8.16(2)	Kilometer Post T	each	N/A	1				
8.16(3)	Right-of-Way Monuments L	each	N/A	1				
8.16(4)	Right-of-Way Monuments T	each	N/A	20				
8.17(1)	Road Stad	each	56	56				
8.18(1)	Porous Backfill for Abutment	cu.m.	410	290				
8.19(1)	Flagpole	each	N/A	N/A				
TRANSFER SECTION 8 TOTAL TO SUMMARY OF PRICES								
						TOTAL YEN		

JICA

