

CHAPTER 6. IMPLEMENTATION PROGRAM

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To implement the Project, the following factors in considering river flood, construction space and transportation of materials must be considered.

6.1 Key Considerations for Implementation

- (1) According to the gauge records of the Bagmati river, the flood season is from June to September. The relationship between construction time and methods will be critical in the implementation schedule.
- (2) The construction work items during the flood period are limited to those which can be executed above flood water level.
- (3) Necessary equipment and materials for the construction can be transported to the project area only during the dry season.
- (4) The size and kind of materials and equipment to be carried to the bridge site must be properly selected because of the narrow construction space and the badly deteriorated access road surface.
- (5) Fuel to be used on the Project may be imported from the countries of Singapore, China and Bangladesh. The fuel supply schedule must recognize that situation.
- (6) Where the proposed bridge is on the site of the existing bridge, construction cannot begin until demolition has been completed.
- (7) Special care must be taken of the buildings adjacent to the bridge abutments during pile driving. This is because damage to the buildings may occur due to vibration during pile driving.

6.2 Implementation Schedule

From Exchange of Notes (E/N) to completion of the Project, the implementation schedule can be separated into consultant contract, detailed design, tender, construction contract and construction (refer to Implementation Schedule).

(1) Consultant Contract and Detailed Design

After the consultant contract, design reports and tender documents for the construction are prepared.

(2) Tender and Contract

Pre-qualification of contractors who apply for tenders is carried out under the qualification conditions discussed with JICA.

Prequalification is executed by the consultant on behalf of the executing agency of the Nepal Government. Tender evaluation and the decision on the contractor are carried out by the consultant and staff of Nepal Government in the presence of the bidders and JICA staff, and then the construction contract award is made.

(3) Construction

The construction works consist of preparatory work, materials and equipment transportation, foundation work, substructure work, superstructure construction, and accessory works such as sidewalks, handrails, expansion joints and approach roads. In the rainy season, the works in and on the river are limited.

6.3 Detailed Design and Supervisory Plan

From detailed design to tender, the staffing is composed of a Chief Engineer, Superstructure Engineer, Substructure Engineer, Soil/Materials Engineer, Cost Estimator and Document Writer. After Detailed Design, during the construction period, a Resident Engineer is in charge of the necessary activities for implementing the Project. Local staff from Nepal will be employed to assist the Resident Engineer.

(1) Chief Engineer

The Chief Engineer is in charge of advisory services throughout detailed design, tender and construction supervision.

(2) Superstructure Engineer

The Superstructure Engineer is responsible for the superstructure design during the detailed design period, the inspection for actual size cutting and pre-assembling of the steel girder structures at the factory, and the erection of the steel girders in the field.

(3) Substructure Engineer

The Substructure Engineer is responsible for the substructure design including the foundations in the detailed design period, and supervision of the foundation works in particular during construction.

(4) Soil/Materials Engineer

The Soil/Materials Engineer is in charge of quality control of concrete and other construction materials with respect to production, mixing and strength.

(5) Cost Estimator

The Cost Estimator is responsible for the review of the cost estimate prepared during the basic design stage and further estimates for the project costs based on it.

(6) Document Writer

The Document Writer is in charge of the document preparation for the tender and for conducting the tender.

(7) Resident Engineer

The Resident Engineer is responsible for the overall supervisory services concerning construction from commencement to completion of the Project.

6.4 Procurement Plan

(1) Local Procurement

Coarse aggregate and fine sand for concrete mixing can be obtained in the Kathmandu valley.

a) Coarse Aggregate

Coarse aggregate is produced from the Godawari quarry site situated about 13 km southeast from Kathmandu city. The aggregate, of marble quality, is widely used in the Kathmandu valley and surrounding area. Another quarry site is Thankot facing route No.1, Kathmandu to Mugling, of which the quality is limestone.

b) Fine Sand

Fine sand for concrete is natural sand obtained from the beds of the Bagmati, Dhobi Khola and Manohara rivers. Since it includes fine pieces of mica, the effect of this on concrete quality must be checked.

(2) Import procurement

The following steel girders and construction equipment are in principle imported from Japan.

a) Steel Girders

Steel girders are imported from Japan and transported through Calcutta port. Although they can be obtained from Singapore and Thailand, those sources are unreliable and longer procurement times will prevent completion of the Project as scheduled.

b) Construction Equipment

Construction equipment, such as shovel loaders, crawler cranes and pile drivers is not available to assign to the Project from Kathmandu or from the surrounding area. They should be transported from Japan.

(3) Procurement in Nepal

Cement, re-bars and timber will be in principle prepared from the markets in Nepal since longer times for procurement from Japan will prevent time schedule of the Project.

(4) Procurement from Other Countries except Nepal and Japan

Construction materials and equipment for the Project are procured in Nepal or imported from Japan as described before.

(5) Others

a) Concrete Strength

Concrete, of 180 kg/cm² strength, used for buildings in the Kathmandu valley is mixed with Godawari aggregate, natural sand from the riverbed and locally produced cement. Concrete of 350 kg/cm² strength,

made with imported cement, is used for international projects in Nepal. Concrete strengths of 400 kg/cm² can be obtained. Such concrete is used for precast concrete in buildings.

b) Labor Conditions

It is recommended that skilled and supervisory workers should be employed from Japan because the bridge structures require specialist techniques and advanced technology for their construction.

c) Transport

The major route for the transportation of materials and equipment is shipping from Japan to Calcutta port and inland transport from Calcutta port to Kathmandu.

6.5 Necessary Measures by Recipient Government

The necessary measures taken care of by the recipient government of the King of Nepal, are land acquisition, land lease for temporary works, clearing/grubbing of the project site, demolishing the existing bridges and buildings, if any. The cost estimate regarding these works is on the basis of the basic design results and construction plan and schedule. Necessary measures will be started as soon as possible, taking into account the urgent construction works of new bridges. Especially, demolishing the existing bridges as designated in the design drawings are of important actions since delay of demolishing will much affect construction implementing as scheduled.

The cost for the necessary measures covered by the recipient government will be estimated at approximately 3.5 million Nepalese Rupees. The cost consists mainly of land

acquisition/lease and after necessary preparatory works. Each cost of them will be 3.335 million and 0.165 million Nepalese Rupees respectively.

6.6 Maintenance Program

(1) Maintenance for New Bridges

The key maintenance points for the new bridges are:

- a) Damage by vehicle collision to such bridge accessories as handrails, curb-stones and end-posts;
- b) Corrosion of the steel girders and bearing shoes caused by insufficient maintenance of the bridges;
- c) Spalling of the concrete bearing bed due to thermal and earthquake forces;
- d) Local scouring around piers and abutments due to river flood, and
- e) Damage on the approach road due to deterioration as traffic increases.

(2) Methods for Inspection and Maintenance

a) Inspection

Maintenance inspections of the bridges are classified as a normal inspection carried out by the inspectors having technical knowledge of the bridge, a periodic inspection by staff trained in bridge inspection, and a special inspection following the passage of an abnormal load, after an earthquake shock, and after river flooding. Periodic inspections are recommended in principle and special inspections should be obligatory after earthquakes and river floods. The inspection items are based on a check-list including the previous requirements for maintenance. Inspection data should be analyzed and abnormal results should be pointed out for further inspection. A maintenance and rehabilitation program can be established, based on these analyzed results.

b) Maintenance Organization

As the maintenance organization, DOR can be the main organization acting as the executing agency while the Kathmandu District Office can directly manage the bridges. Therefore staffing, consisting of bridge engineers and inspectors, can be chosen from the above executing organization.

c) Budget

The Budget for bridge maintenance should be covered by that of the Kathmandu District Office.

CHAPTER 7. PROJECT EVALUATION

CHAPTER 7 PROJECT EVALUATION

The 6 bridges to be reconstructed are located in such circumstances as an earthquake-hazard zone, a river flood area, soft ground and a dense residential area. These circumstances are greatly influential on bridge stability. The reconstruction of the 6 bridges is so important because future collapses due to flooding can be avoided, and the structural function of the bridge can be improved to meet the increased traffic volume. Thus it can enhance tourism in Kathmandu city and the surrounding area. The following situations will be improved with the reconstruction of the bridges:

No.2 Bishunumati Bridge

The wooden bridge, presently impassable to vehicles due to structural dilapidation, can recover its durability and function. The new longer bridge span will avoid bridge collapse, and the reconstructed bridge will contribute to the development of tourism for the Swayambhunath temple.

No.4 Dhobi Khola Bridge

The traffic bottle-neck resulting from the fact that vehicles cannot pass on the bridge will be improved by the new wider bridge.

Pier settlement or inclination caused by local scouring as at the existing No.5 bridge can be avoided by new pier locations. The reconstruction of No.4 bridge greatly contributes to improving the traffic situation in Kathmandu.

No.6 Dhobi Khola Bridge

The part of the traffic network of Kathmandu city lost when the existing bridge was washed away in the last flood will be recovered by linking Chabahil on the left bank with Handi Gaon on the right bank.

No.7 Dhobi Khola Bridge

The reconstruction of the existing bridge which faces the hazard of pier settlement and structural dilapidation will recover the function and safety of the bridge. Also, the traffic network of Kathmandu city will be improved.

No.8 Mahadev Khola Bridge

When the existing wooden bridge on the road linking Kathmandu city and Sankhu town is reconstructed, there will not be a traffic block should the temporary detour be washed away during the rainy season.

No.9 Manmatta Bridge

The reconstruction of the existing severely dilapidated wooden bridge on the same road as the No.8 bridge will also solve a traffic block problem between Kathmandu city and Sankhu town.

CHAPTER 8. CONCLUSIONS AND RECOMMENDATIONS

CHAPTER 8 CONCLUSIONS AND RECOMMENDATIONS

(1) Conclusions

The reconstruction of the 6 existing bridges will repair the structural dilapidation, will make the bridges less prone to damage from natural hazards and will improve the traffic network of Kathmandu city. Therefore, the following conclusions are reached in respect of the Project:

- a) It will maintain bridge and traffic safety during the rainy season.
- b) It will contribute to the promotion and enhancement of tourism in Kathmandu city and the surrounding area.
- c) Advanced bridge technology such as required for bridge erection and foundation works can be transferred to the staff of Nepal who are in charge of the Project.

(2) Recommendations

The following recommendations are made concerning the bridge in Nepal including the reconstruction of the 6 bridges.

a) Preparation of Existing Bridge Data

Existing bridge data such as structural type, structural size, river conditions, traffic situation and other natural circumstances should be recorded on a bridge data file. These bridge data files can be effective in bridge planning and in drawing up a maintenance program.

b) Bridge Inspection and Maintenance Program

Bridge inventory sheets covering all bridges in Nepal should be prepared. An inspection and maintenance program based on these sheets would be effective in

allowing rational management and budget savings for the existing bridges.

c) Inspection and Maintenance System

It is also recommended to establish an inspection and maintenance system for the existing bridges so that the system can enhance more development of infrastructure in Nepal.

d) Protection of Bridge Structure from River Flood

Local scouring around the piers and abutments due to river flooding will easily cause settlement and inclination of the substructure. But the bridge can be protected from these by systematic inspection activities.

e) Finding Abnormal Change

It is an important action to find out any abnormal change of the bridge structures during inspection. In particular, it is recommended to monitor changes on the substructure of No.4 bridge, including the existing water pipe line bridge. This is because lowering of the riverbed is occurring in the Dhobi Khola river which may cause settlement and inclination of the substructures.

[APPENDIX]

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1. MEMBERS OF THE JAPANESE BASIC DESIGN TEAM

Assignment	Name	Position
Team Leader	Akio OHTSUKA	Metropolitan Expressway Public Corporation
Project Coordinator	Hiroshi SHIONO	Japan International Cooperation Agency
Bridge Planner	Koji ENOMOTO	Nippon Koei Co., Ltd.
Bridge Designer	Masaaki SHIMIZU	Nippon Koei Co., Ltd.
Construction Planner	Akio MORIKAWA	Nippon Koei Co., Ltd.
Geotechnical Eng'r/ Surveyor	Fujiya FUJII	Nippon Koei Co., Ltd.
Cost Estimator	Takuo KOZAWA	Nippon Koei Co., Ltd.

2. ITINERARY FOR FIELD SURVEY

Cumulative Days	Date	Place	Activities
1	Oct. 15 (Sun)	Tokyo~Bangkok	
2	16 (Mon)	Bangkok~Kathmandu Japanese Embassy, JICA	Courtesy call
3	17 (Tue)	Department of Roads (DOR)	Presentation and explanation of Inception Report, Questionnaire
4	18 (Wed)	Field	Site reconnaissance
5	19 (Thu)	DOR	Discussion on Project Plan
6	20 (Fri)	DOR	Discussion on Project Plan
7	21 (Sat)		Team meeting
8	22 (Sun)	DOR	Minutes of Discussions, Signing
9	23 (Mon)	DOR Japanese Embassy, JICA Kathmandu~Bangkok	Explanation of survey results Team Leader/ Coordinator leaving for Tokyo
10	24 (Tue)	Bangkok~Tokyo	
11	25 (Wed)	DOR, Bridge Site	Data collection
12	26 (Thu)	DOR, Bridge Site	Width Survey
13	27 (Fri)	DOR, Bridge Site	Hearing Survey
14	28 (Sat)		Team meeting
15	29 (Sun)	Tokyo~Bangkok	Bridge Designer
16	30 (Mon)	Bangkok~Kathmandu	Bridge Designer
17	31 (Tue)	Bridge Site	Inventory Survey
18	Nov. 1 (Wed)	DOR, Bridge Site	
19	2 (Thu)	DOR, Bridge Site	Discussions on Questionnaire
20	3 (Fri)	DOR, Bridge Site	

Cumulative Days	Date	Place	Activities
21	4 (Sat)		Team meeting
22	5 (Sun)	DOR, Bridge Site	
23	6 (Mon)	DOR, Bridge Site	Traffic survey
24	7 (Tue)	Bridge Site	Bridge Type / Design Criteria
25	8 (Wed)	DOR, Bridge Site	Bridge Type
26	9 (Thu)	DOR, Bridge Site	Memorandum on Discussions, Signing
27	10 (Fri)	Japanese Embassy, JICA	Explanation of survey results
28	11 (Sat)	Kathmandu~Bangkok	Team meeting, Leaving for Tokyo
29	12 (Sun)	Bangkok~Tokyo	Survey
30	13 (Mon)	DOR, Bridge Site	
31	14 (Tue)	DOR, Bridge Site	
32	15 (Wed)	DOR, Bridge Site	
33	16 (Thu)	DOR, Bridge Site	
34	17 (Fri)	DOR, Bridge Site	
35	18 (Sat)		
36	19 (Sun)	DOR, Bridge Site	
37	20 (Mon)	DOR, Bridge Site	
38	21 (Tue)	Japanese Embassy, JICA	
39	22 (Wed)	Kathmandu~Bangkok	Geotechnical Eng'r/Surveyor Leaving for Tokyo
40	23 (Thu)	Bangkok~Tokyo	

3. LIST OF MEMBERS CONCERNED

Embassy of Japan in Nepal	Ambassador	Mr. K. ARICHI
	Councilor	Mr. T. K. NISHINA
	Secretary	Mr. K. HIROKI
JICA, Nepal Office	Resident Representative	Mr. S. KUMANO
	Asst. Resident Representative	Mr. M. OYAMA
Ministry of Works and Transport	Secretary	Mr. M. P. Kafle
Department of Roads	Director General	Mr. N. D. Sharma
	Deputy Director General	Mr. R. D. Sharma
	Deputy Director General	Mr. V. P. Shresta
	Regional Director	Mr. S. P. Upadhya
	Senior Divisional Engineer	Mr. S. K. Regomi
	Assistant Engineer	Mr. D. P. Osti

4. MINUTES

(1) MINUTES OF DISCUSSIONS

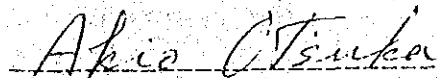
MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
OF
THE PROJECT FOR THE BRIDGE RECONSTRUCTION
IN KATHMANDU VALLEY
IN
THE KINGDOM OF NEPAL

In response to the request of His Majesty's Government of Nepal (hereinafter referred to as HMG/N) for Grant Aid for the Project for the Bridge Reconstruction in Kathmandu Valley (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the Project and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to the Kingdom of Nepal the study team headed by Mr. Akio OHTSUKA, Head, Maintenance Engineering Division, Maintenance and Facilities Department, Metropolitan Expressway Public Cooperation, from October 15 to November 23, 1989.

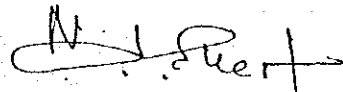
The team had a series of discussions on the Project with the officials concerned of HMG/N and conducted a field survey in Kathmandu.

As a result of the study and discussions, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.

Kathmandu, October 22, 1989



Mr. Akio OHTSUKA
Team Leader
Basic Design Study Team
JICA



Mr. Narayan D. SHARMA
Chief Engineer
Department of Roads
Ministry of Works and Transport

ATTACHMENT

1. TITLE OF THE PROJECT

The title of the Project is "The Project for the Bridge Reconstruction in Kathmandu Valley in the Kingdom of Nepal".

2. OBJECTIVES OF THE PROJECT

The objective of the Project is to reconstruct superannuated bridges in Kathmandu valley in order to smoothen and improve the safety of the traffic flow.

3. EXECUTING ORGANIZATION

The executing agency for the implementation of the Project is The Department of Roards, The Ministry of Works and transport.

4. LOCATION OF THE PROJECT

The location of the bridges subjected to the Project are shown in Annex-I.

5. REQUEST BY HMG/N

The outline of the bridges which are requested by HMG/N to reconstruct under the Japanese Grant Aid are shown in Annex-II according to priority order. The Japanese study team will convey to the Government of Japan the intention of HMG/N that the former takes the necessary measures to cooperate in implementing the Project within scope of the Japanese economic cooperation in grant aid.

6. JAPANESE GRANT AID PROGRAM

The Nepal side has understood the system of the Japanese Grant Aid Program explained by the Team which includes a priciples for use of a Japanese consultant firm and Japanese contractors for the implementation of the Project.

7. NECESSARY MEASURES TAKEN BY NEPAL

HMG/N would take the necessary measures for realization of the Project as shown in the Annex-III on condition that the Japanese Grant Aid is extended to the Project.

8. REMOVAL OF THE EXISTING BRIDGES

The Nepal side ensured that the existing bridges would be removed prior to the construction of new bridges on condition that the Grant Aid Program is extended to the Project.

Annex-I

LOCATION OF THE BRIDGES



Bridge No.	Bridge Name	River
(1) No. 2	Jatimandi (Bali)	Baburandi (Gr.)
(2) No. 4	Dhobi Khola (Kala Pah)	Dhobi Khola (Gr.)
(3) No. 6	Dhobi Khola (Hansi Canal)	
(4) No. 7	Dhobi Khola (Suber Ailast)	
(5) No. 8	Mahidew Khola	Mahidew Kh. (Gr.)
(6) No. 9	Manmadi	Branch of Manmadi (Gr.)

98 A.O

Annex-II

OUTLINE OF THE PROJECT

The outline of the Project proposed by HMG/N to the Government of Japan under its Grant Aid Program is to reconstruct the following six existing bridges, which are listed according to priority order, which are inadequate functioning and dilapidated conditions.

- | | | | |
|-----|------|----------------|-------------------------|
| (1) | No.2 | Bishnumati, | Bishnumati Riv. |
| (2) | No.8 | Mahadev Khola, | Mahadev Khola Riv. |
| (3) | No.9 | Manmatta, | Branch of Manohara Riv. |
| (4) | No.4 | Dhobi Khola | Dhobi Khola Riv. |
| (5) | No.7 | -do- | -do- |
| (6) | No.6 | -do- | -do- |

Qd

A.O.

Annex-III

NECESSARY MEASURES TAKEN BY HMG/N

1. To secure land necessary for the execution of the Project and provide enough space for such construction as temporary offices, working area, stockyard and others.
2. To ensure that river area necessary for the construction of the facilities be freely accessible.
3. To clear, level and reclaim the project sites.
4. To ensure prompt unloading, tax exemption and custom clearance at ports of disembarkation in the Kingdom of Nepal and facilitate prompt internal transportation therein of the products purchased under the Grant.
5. To secure, with respect to the supply of the products and services under verified contracts that Japanese nationals shall not be subject to any custom duties, internal taxes and other fiscal levies which may be imposed in the Kingdom of Nepal.
6. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry to the Kingdom of Nepal and stay therein for the performance of their work in accordance with the relevant laws and regulations of the Kingdom of Nepal.
7. To ensure the necessary budget and personnel for the proper and effective operation and maintenance of the bridges provided under the grant aid.
8. To provide necessary permissions, licenses and other authorizations for carrying out the Project.
9. To bear two kinds of commissions to the Japanese foreign exchange bank for the banking services, based upon the "Banking Arrangement," namely, the advising commission of the "Authorization to Pay" and payment commission.
10. To bear all local expenses, other than those to be borne by the grant aid.

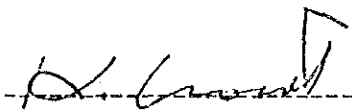
DB
A. C.

MEMORANDUM OF DISCUSSIONS
ON
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OF
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IN KATHMANDU VALLEY
IN
THE KINGDOM OF NEPAL

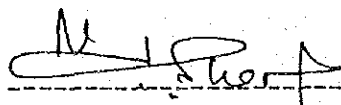
Based on the Minutes of Discussions exchanged on 22nd, October, 1989, Authorities concerned in HMG/N and JICA Study Team continued the study and exchanged views on the Basic Design on the captioned study. As a result, concerning the formulation of Draft Final Report, the both parties have agreed to the following:

- 1) The reconstruction bridges are to be located as shown in Appendix-1, taking the project site situation into consideration.
- 2) The bridge configuration such as type, cross section, length, proposed height and design loads are to be planned in principle as shown in Appendix-2.
- 3) The Basic Design for the reconstruction bridges are to be based on the criteria and standards summarised in Appendix-3.

Kathmandu, November 9, 1989



Mr. Koji ENOMOTO
Bridge Planner
JICA Basic Design Study Team
Reconstruction of Kathmandu
Valley Bridges



Mr. Narayan D. SHARMA
Director General
Department of Roads
Ministry of Works and Transport

RECONSTRUCTION BRIDGES

Appendix-1

No.	Existing Bridge			Planned Bridge				
	Name	Length(m)	Type	Demolishing	Location	App. Road	Temp. Detour	Land Acq.
2.	Bishnumati	60	Wooden	Yes	Same as the exst.	No	Yes	Required*-1
4	Dhobi Khola	45	Steel	No	To be realigned	Yes	No	Required*-2
6	Dhobi Khoia	45	Wooden	Yes	To be realigned	Yes	Yes	Required*-2
7	Dhobi Khola	60	Wooden	Yes	Same as the exst.	No	Yes	Required*-1
8	Mahadew Khole	42	Wooden	Yes	Same as the exst.	No	Yes	Required*-1
9	Manmatia	42	Wooden	Yes	Same as the exst.	No	Yes	Required*-1

Note: *-1 : for Temporary Detour

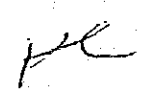
*-2 : for Approach Roads

THE PLANNED BRIDGES

No.	Bridge Name	Type	Cross Section	Length	Proposed Height	Design Loading
No. 2	Bishnumati	Steel	*-1 1-lane w/2-sidewalk	To be equivalent to the exst. bridge	To be equivalent to the exst. bridge	TL-20
No. 4	Dhobi Khola	Steel	2-lane w/2-sidewalk	- do. -	- do. -	TL-20
No. 6	Dhobi Khola	Steel	1-lane w/2-sidewalk	- do. -	- do. -	TL-20
No. 7	Dhobi Khola	Steel/Concrete	1-lane w/2-sidewalk	- do. -	- do. -	TL-20
No. 8	Mahadew Khola	Steel/Concrete	1-lane w/1-sidewalk	- do. -	- do. -	TL-20
No. 9	Manimatta	Steel/Concrete	1-lane w/1-sidewalk	- do. -	- do. -	TL-20

*-1 : Subject to further study

*-2 : To be checked by HS20-44 (AASHTO)

DESIGN CRITERIA/STANDARDS

(1) Bridge Width

According to : - Existing Bridge Width
- Existing Access Roads Width
- Traffic Volume
- Nepal Road Standards (NRS)
- Japanese Standards (JS)

To be classified into: - One lane or two lanes

(2) Design Live Loads

According to : - AASHTO
- Japanese Standards (JS)

To be classified into: - TL-20 to be checked by HS20-44
(AASHTO)

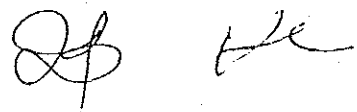
(3) Earthquake

Based on : - Magnitude Distribution (ISC)

Applicable Specification : - Japanese Earthquake Spec.

(4) Others

The Japanese Standards and specifications are applicable for a structural design other than the existing criteria/standards.



(3) MINUTES OF DISCUSSIONS

MINUTES OF DISCUSSIONS
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In response to the request made by His Majesty's Government of Nepal (hereinafter referred to as HMG/N) for Grant Aid for the Project for the Bridge Reconstruction in Kathmandu Valley (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the Project and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to the Kingdom of Nepal the study team headed by Mr. Akio OHTSUKA, Head, Maintenance Engineering Division, Maintenance and Facilities Department, Metropolitan Expressway Public Cooperation, from October 15 to November 23, 1989.

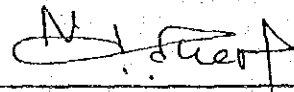
As the result of the study, JICA prepared a Draft Final Report and dispatched a team headed by Mr. Akio OHTSUKA, to explain and discuss it from January 26 to February 2, 1990.

Both parties had a series of discussions on the report and agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.

Kathmandu, January 31, 1990



Mr. Akio OHTSUKA
Team Leader,
Basic Design Study Team,
JICA



Mr. Narayan D. SHARMA
Director General
Department of Roads
Ministry of Works and Transport

ATTACHMENT

1. The Nepal side has agreed in principle to the basic design proposed in the Draft Final Report (with minor but appropriate alteration mutually agreed upon to be incorporated in the Final Report).
2. The Nepal side has understood Japan's grant aid system and confirmed that the necessary measures will be taken by the Nepal side which are manifested in the Annex-III of the MINUTES OF DISCUSSIONS on the Project signed on October 22, 1989, on condition that the Japan's Grant Aid would be extended to the Project.
3. The Nepal side will take the necessary measures which are indispensable for realization of the Project as shown in the Annex-I, on condition that the Japan's Grant Aid would be extended to the Project.
4. The Nepal side stated that necessary budget will be provided for the Project to ensure the effective operation and maintenance of the bridges provided under the Grant Aid.
5. The Final Report (10 copies in English) will be submitted to the Nepal side by the end of March, 1990.


A. O.

UNDERTAKINGS TO BE COVERED BY THE RECIPIENT GOVERNMENT

Bridge Name / Site	Land Acquisition	Land Lease for		Demolishing			Public Facilities		
		Temporary Works	Wooden/Steel Superstructure	Brick-Abutment	Wooden Pier	Clearing & Grubbing	Electric Cable	Water Pipe	
No.2 Bishnumati	-	*	*	*	*	*	*	*	*
No.4 Dhobi Khola	*	*	Not to be demolished			*			
No.6 Dhobi Khola	*	*	Wrecheage to be removed						
No.7 Dhobi Khola	-	*	*	*	*	*	*	*	*
No.8 Mahadev Khola	-	*	*	*	*	*	*	*	*
No.9 Manmatta	-	*	*	*	*	*	*	*	*
Stock-Yard (Materials & Equipment)	-	*	-	-	-	-	-	-	-

Note: * : to be required or transferred.

The above undertakings for land acquisition, lease for temporary works and other preparatory works are to be made by the commencement of the Project. Necessary actions for the undertakings will be started as soon as possible, taking into account the urgent construction works. Especially, a temporary detour across the river at the No.2 Bishnumati bridge site will be prepared by the Nepal side before providing a temporary bridge furnished by the Project.

A.O.