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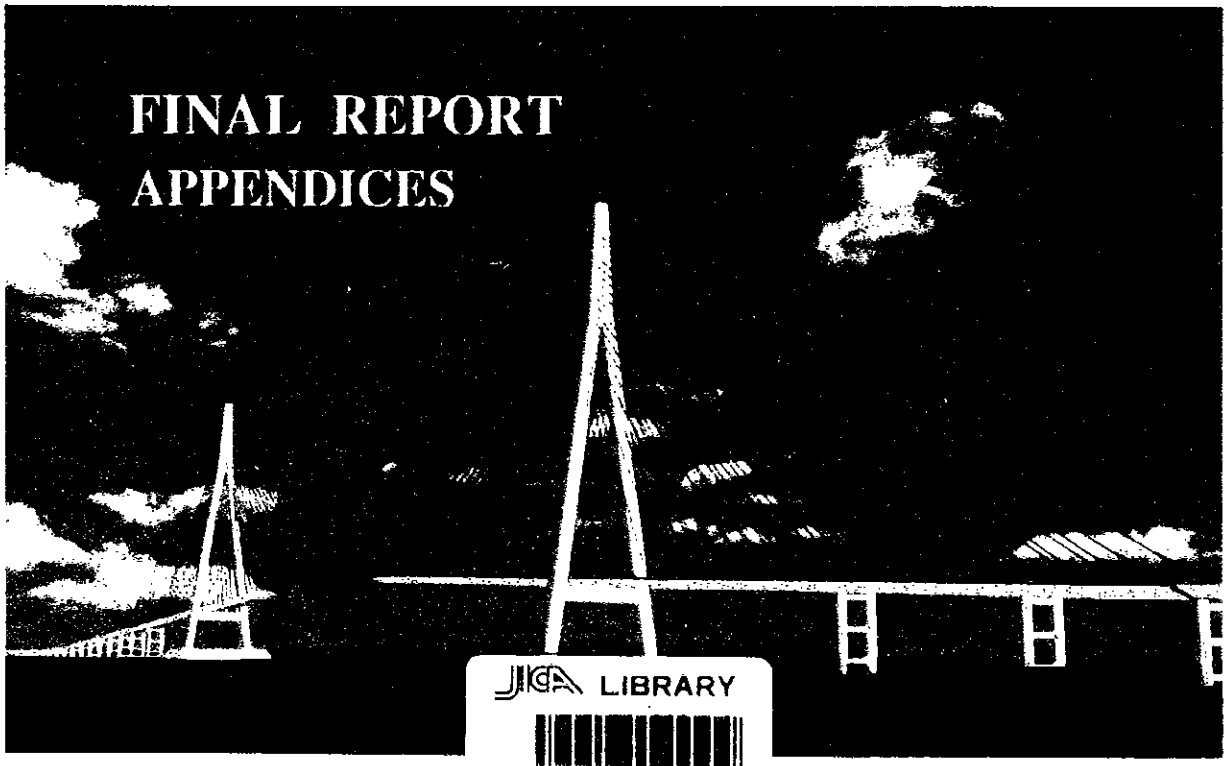
No. 32

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF TRANSPORT
SOCIALIST REPUBLIC OF VIET NAM

THE DETAILED DESIGN ON THE CAN THO BRIDGE CONSTRUCTION IN SOCIALIST REPUBLIC OF VIET NAM



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF TRANSPORT
SOCIALIST REPUBLIC OF VIET NAM

THE DETAILED DESIGN ON THE CAN THO BRIDGE CONSTRUCTION IN SOCIALIST REPUBLIC OF VIET NAM

FINAL REPORT

APPENDICES

OCTOBER 2000

NIPPON KOEI CO., LTD.

FINAL REPORT
ON
THE DETAILED DESIGN OF THE CAN THO BRIDGE CONSTRUCTION
IN
SOCIALIST REPUBLIC OF VIET NAM

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IN
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BETWEEN
MY THUAN PROJECT MANAGEMENT UNIT
MINISTRY OF TRANSPORT
AND
THE STUDY TEAM
JAPAN INTERNATIONAL CO-OPERATION AGENCY

Ho Chi Minh City, 12 May 1999

Mr. Le Long Dinh
Director General
PMU My Thuan
Ministry of Transport

Mr. Koji Enomoto
Team Leader
Study Team
Japan International
Co-operation Agency

MINUTES OF MEETING

In accordance with the Scope of Work for the Detailed Design of the Can Tho Bridge Construction Project (hereinafter referred to as "S/W" agreed upon on 14 December 1998 between Japan International Co-operation Agency (hereinafter referred to as "JICA") and the Ministry of Transport (hereinafter referred to as "MOT"), an Inception Report for the Detailed Design of the Can Tho Bridge Construction in Socialist Republic of Vietnam (hereinafter referred to as "the Study") was submitted by the Study Team of JICA to MOT.

After a series of discussions between PMU My Thuan and the Study Team on the Detailed Design for the Can Tho Bridge Construction, the following subjects were confirmed and agreed upon by the above two parties.

1. Submission of the Inception Report

The Study Team submitted 20 copies of the Inception Report on 20 April 1999 to MOT in accordance with the S/W for the Can Tho Bridge Construction. PMU My Thuan acknowledged the receipt of the report and agreed on the main work items, schedules and other proposals were given for the Study.

2. Discussion with MOT (20th April 1999, in Hanoi)

1) The opening remarks and the introduction of the participants of the Vietnamese side were made by Dr. Tran Doan Tho, Director General of the Planning and Investment of MOT.

2) The Study Team presented the schedule of the Study and the outline and the features of the Project.

3) Mr. Vu Van Tri, Deputy Director of the Transport Work's Quality Control Department, explained the importance of the final centerline in relation with land acquisition at the site, and introduced the comments on the Feasibility Study evaluated by the National Committee of Evaluation and Procurement (NCEP).

4) Mr. Vu Van Tri also suggested that comments on the Detailed Design will be made in the course of the Study.

3. **Discussion with PMU My Thuan (21st April 1999, in Ho Chi Minh City)**

1) The number of package for tendering will be four packages including Main and Approach Span Bridges, Approach Road for Vinh Long side, Approach Road for Can Tho side and Infrastructure Facilities and Areas for resettlement inhabitants by the Project, subject to the further study from the technical and economical view points.

2) The documents of pre-qualification for tenderers should be available three months before pre-qualification process for approval by the Vietnamese Government.

3) The project costs prepared in the Feasibility Study should be reviewed and be reasonable estimate.

4) The alignment at Vinh Long side should be further studied to avoid military zone if possible.

5) The bridge structures in the river, especially the foundations, must be safe from the hydrodynamic behaviours such as local scouring and riverbank erosion. To ascertain the safety of the bridge structures in the river, a hydraulic simulation analysis should be conducted based on the river hydraulic data by the field surveys.

6) During the implementation of the study, technology transfer to the Vietnamese counterpart personnel is to be programmed and included in the design report.

7) Exact locations or areas, where the clearance of unexploded ordnance shall be needed, will be designated one month before starting the field surveys.

8) Intersection types at the connecting to the National Highway No.1 should be based on the traffic conditions i.e., updated and/or forecasted traffic data.

9) Solutions of the traffic problem on local service roads, which will be crossed by the Project road.

10) The connection to the island in the Hau River should be studied.

11) The detailed schedules for survey works such as topographical survey, geotechnical investigation and environmental survey should be determined for effective performance allowing for the flood and rainy seasons.

12) The specific requirements for the works in detailed design stage to be subcontracted to the local firms should be introduced.

13) The final situation of international authorisation and related figures on the navigational clearance are to be reconfirmed for the detailed design.

14) For the application of the standards or specifications to the Detailed Design of the bridge structures, the Vietnamese standards should be mainly considered referring

to the AASHTO specifications and Japanese standards in case the Vietnamese standards are not available.

15) In the design of the approach road of the Can Tho side, the conditions of the development plans near the riverside and the accessible connection to/from the peripheral road of Cai Cui port should be considered.

16) Proposing the study of the construction of separated intersection at the roundabout on the Can Tho side.

17) The land acquisition report must indicated the centerline identified by marks that will be set up on the site, this report must be submitted before September 1999.

18) The Vietnamese counterpart personnel (PMU My Thuan) for the Detailed Design are appointed by Director General as follows:

Mr. Le Long Dinh, Director General PMU My Thuan, MOT.	Team Leader,
Mr. Nguyen Xuan Hiep, Manager, Bridge Project Management Division.	Member
Mr. Nguyen Anh Tuan, Manager, Planning and Investment Division.	Member (taking part in cost aspects)
Mr. Nguyen Ngoc Lich, Manager, Land Acquisition Division	Member
Mr. Vu Dinh Thiec, Chief Administration Office.	Member

A number of other members will be directly nominated by the Team Leader during the implementation process.

ANNEX
(LIST OF PARTICIPANTS)

A. List of participants at the meeting between MOT and the JICA Study Team on 20 April 1999, Hanoi.

(1) Vietnamese side:

No.	Name	Position / Organisation
1.	Dr. Tran Doan Tho	Director General of the Planning & Investment Dept., MOT
2.	Mr. Vu Van Tri	Deputy Director of the Transport Work's Quality Control Dept.
3.	Mr. Nguyen Trung Cu	Senior Bridge Engineer
4.	Mr. Nguyen Thi Hang	Specialist, Planning & Investment Dept., MOT
5.	Ms. Duong Thi Tram Anh	Chief Representative of PMU My Thuan in Hanoi
6.	Mr. Pham Chien Thang	Assistant Manager, Bridge Projects Management
7.	Mr. Nhu Nguyen Hong Cuong	Specialist, Representative Office of PMU My Thuan in Hanoi.
8.	Mr. Phan Ba Dung	Deputy Director, TEDI South

(2) Japanese side:

No.	Name	Position / Organisation
a)Representatives:		
1.	Mr. Shoichi Miyazaki	First Secretary Embassy of Japan
2.	Mr. Kazuhiko Kikuchi	Assistant Resident Repre. JICA Hanoi
b) Study Team:		
1.	Mr. Koji Enomoto	Team Leader Study Team
2.	Mr. Koji Nakai	Sub-Team Leader Study Team
3.	Mr. Koichi Arakawa	Administrator Study Team

B. List of participants at the meeting between PMU My Thuan and JICA Study Team on 21 April 1999, in Ho Chi Minh City.

(1) Vietnamese side:

No.	Name	Position / Organisation
1.	Mr. Le Long Dinh	Director General PMU My Thuan, MOT
2.	Mr. Vu Dinh Thiec	Chief Administration Office PMU My Thuan, MOT
3.	Mr. Nguyen Anh Tuan	Manager of Planning and Investment Division, PMU My Thuan, MOT
4.	Mr. Nguyen Xuan Hiep	Manager of Bridge Project Management Division, PMU My Thuan, MOT
5.	Mr. Ha Trong Quang	Engineer Bridge Division, PMU My Thuan, MOT
6.	Mr. Phan Ba Dung	Deputy Director, TEDI South

(2) Japanese side:

No.	Name	Position / Organisation
1.	Mr. Koji Enomoto	Team Leader Study Team
2.	Mr. Koji Nakai	Co-Team Leader/ Highway Study Team
3.	Mr. Kazuaki Nemoto	Highway Engineer 3 Study Team
4.	Mr. Masakuni Nakayama	Surveyor Study Team
5.	Mr. Yoshio Kaijo	Cost Estimator Study Team
6.	Mr. Yasuhira Minami	Environment Specialist Study Team
7.	Mr. Koichi Arakawa	Administrator Study Team

1.2 Minutes of Meeting on the Draft Basic Design Report, 30 August 1999

MINUTES OF MEETING

ON

THE DRAFT BASIC DESIGN REPORT

ON

THE DETAILED DESIGN

OF

THE CAN THO BRIDGE CONSTRUCTION

IN

SOCIALIST REPUBLIC OF VIET NAM

BETWEEN

MINISTRY OF TRANSPORT

PROJECTS MANAGEMENT UNIT MY THUAN

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

THE STUDY TEAM

Ho Chi Minh City, 30 August 1999

Mr. Le Long Dinh
Director General
PMU My Thuan
Ministry of Transport

Mr. Koji Enomoto
Team Leader of Study Team
Japan International
Cooperation Agency

Witnessed by

Mr. Duong Danh Dung
General Director
Transport Construction
Quality Conctrol and
Management Bureau
Ministry of Transport

Ms. Yoshie Muramatsu
Study Planning
First Social Development Study Division
Social Development Study Dept., JICA

MINUTES OF MEETING

In accordance with the Scope of Work (hereinafter referred to as "S/W") agreed upon on 14 December 1998 between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Ministry of Transport (hereinafter referred to as "MOT"), a Draft Basic Design Report for the Detailed Design of the Can Tho Bridge Construction in Socialist Republic of Viet Nam was submitted by the Study Team of JICA to PMU My Thuan, MOT on 23 August 1999. Team Leader of Study Team of JICA, along with other members of the Study Team, conducted the series of briefing of the Report on 30 August to PMU My Thuan in Ho Chi Minh City.

1. Topic of Discussion

After the series of briefing and discussion between the Study Team of JICA and the members of PMU My Thuan, along with other Vietnamese and Japanese participants as the attached list, on the Draft Basic Design Report for the Detailed Design of the Can Tho Bridge Construction, the following contents were confirmed and basically agreed by the participants.

1) Whole the horizontal alignment design in the Draft Basic Design was accepted by the PMU My Thuan, and which cleared all control points and areas along the alignment.

2) In general, the types of four interchanges were agreed. But they should be supported by the traffic volume in the future.

   The larger geometrical radius should be considered for the interchange at the beginning point (Vinh Long side).

3) The 4.5% of maximum gradient in the profile design were proposed. PMU My Thuan will submit this proposal to MOT for conclusion.

4) The 550m of central span length of the Main Bridge was agreed from the hydrological and navigable reasons of the Hau River in stead of 500m in the Feasibility Study.

5) The location of the tower for the Main Bridge on the left riverbank is accepted, but further study on the foundation depth and stability in consideration of the river course change and the riverbank erosion.

6) The Cable-stayed bridge type for the Main Bridge was agreed.

7) To reduce the quantities of foundation, PMU My Thuan suggested the 40m of the span length of the approach span bridges (similar length to the approach span of super-Tee beam for the My Thuan Bridge), and the geotechinical condition should be carefully studied to economize the foundation length.

   The Study Team replied that the 50m of span length was optimised by the study combining the superstructure, the substructure, and foundations.

8) It was requested by PMU My Thuan to start the preparation of Pre-Qualification Documents to expedite the procedures for approval.

9) 5 packages covering international and domestic tendering for construction was proposed by the Study Team, and one package for tendering and construction supervision was proposed by PMU My Thuan.

   Further study of the procurement plan including the appropriate cost and proper size of package were required.

10) Resettlement plan of the residential houses should be settled soon based on the engineering results prepared by Study Team.

11) For the construction yard plan, the use of the rivers and canals should be considered for the transportation of the construction materials and equipment for their unloading and loading.

12) The density housing areas in the Can Tho side should be considered to determine the location of the service area.

13) Design Criteria including interchanges should be prepared based on the study results of the comparison of the characteristic of the specifications, i.e., Vietnamese Standard, AASHTO Specification, and Japanese Standard, including the check by 200 tonne loading.

14) The typical transverse cross-sections were proposed as follows: total width of 23.1m for the Main Bridge, 23.1m for the Minor Bridge (Bridge Length less than 100m), and 24.1m for the Road Embankment. PMU My Thuan will submit this proposal to MOT for conclusion.

15) Additional bore hole for soil investigation for the foundation works, if required, will be taken care in the stage of construction.

16) Aerodynamic Test in accordance with Japanese Standards should be described in the Design Criteria.

17) It was requested by PMU My Thuan that the design of road construction through Quang Trang Bridge should be included in the Detail Design.

   But, the JICA representative replied it shall be discussed separately, not including in the Detail Design.

   Vietnamese side agreed that it should be separated from this Detail Design preparation.

18) The Draft Basic Design Report will be submitted to the Proof Consultant of MOT.

LIST OF PARTICIPANTS AT THE MEETING OF DRAFT BASIC DESIGN REPORT ON 30th AUGUST 1999

(1) Vietnamese Side

No.	Name	Position	Organization
1.	Le Long Dinh	Director General	PMU My Thuan
2.	Do Ngoc Dung	Vice Director General	PMU My Thuan
3.	Doan Quang Hung	Vice Director General	PMU My Thuan
4.	Nguyen Anh Tuan	Chief of the P&I Division	PMU My Thuan
5.	Nguyen Xuan Hiep	Chief of the Bridge Division	PMU My Thuan
6.	Nguyen Ngoc Lich	Chief of the R&L Division	PMU My Thuan
7.	Pham Chien Thang	Deputy of the Bridge Division	PMU My Thuan
8.	Le Ngoc Thach	Technical Advisor	PMU My Thuan

(2) Japanese Side

No.	Name	Position	Organization
1.	Minoru Fujiwara	JICA Advisor	JICA Technical Advisory Team
2.	Toshiyuki Kano	JICA Advisor	JICA Technical Advisory Team
3.	Yoshie Muramatsu	JICA Tokyo	JICA, Social Development Study Dept.
4.	Koji Enomoto	Team Leader	Study Team
5.	Yoshio Kaijo	Construction Planner	Study Team
6.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team
7.	Seijyu Ikedda	Geotechnical Engineer	Study Team
8.	Kazuaki Nemoto	Highway Engineer	Study Team
9.	Koichi Ishida	Bridge Engineer	Study Team
10.	Shinsuke Tezuka	Highway Engineer	Study Team
11.	Keith Woodruff	Documentation Specialist	Study Team
12.	Robert Stubbs	Bridge Engineer	Study Team
13.	Takashi Kametani	Cost Estimator	Study Team
14.	Yoshitaka Motomura	Cost Estimator	Study Team

MINUTES OF MEETING
ON
THE DRAFT BASIC DESIGN REPORT
ON
THE DETAILED DESIGN
OF
THE CAN THO BRIDGE CONSTRUCTION
IN
SOCIALIST REPUBLIC OF VIET NAM
BETWEEN
PROOF CHECK CONSULTANT
OF
MINISTRY OF TRANSPORT
PROJECTS MANAGEMENT UNIT MY THUAN
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
THE STUDY TEAM

Ho Chi Minh City, 09 September 1999

Prof. Dr. Le Van Thuong
Team Leader of
Proof Check Consultant
Ministry of Transport

Mr. Koji Enomoto
Team Leader of Study Team
Japan International
Cooperation Agency

Witnessed by

Mr. Nguyen Xuan Hiep
Manager, Bridge Projects Management Divs.
PMU My Thuan
Ministry of Transport

MINUTES OF MEETING

After the series of briefing, site visit and discussion between the Study Team of Japan International Cooperation Agency (JICA) and the Proof Check Consultant of Ministry of Transport (MOT) and PMU My Thuan, MOT, on the Draft Basic Design Report on the Can Tho Bridge Construction, the following comments and recommendations were made and basically agreed by the participants.

(1) Comments on the Plan of the Interchanges

The Proof Check Consultant made the comments on the interchange plan as below:

- The Project Route and the National Highway (NH) No.1, Beginng Point

  Alternative alignment to avoid the permanent type houses should be studied, and the rotary intersection system with two lanes-rumpway to the existing Can Tho Ferry should be studied. In case of the widing of the existing road, it should be widened only on the opposite side of the Tra Da canal.

- The Project Route and NH No.54

  The full interchange system should be considered, since less land acquisition problem (less residential houses).

- The Project Route and NH No.91

  The NH No.91 road should be overpass to maintain suitable vertical alignment of the project route.

- The Project Route and NH No.1, End Point

  The interchange type was agreed by the Proof Check Consultant.

(2) Connection to the Mid Island

For the connection to the island in the Hau river (Cu Lao Lat), the rumpways to connect the island for the vehicles are not recommendable, especially in terms of car accident, and the damages to the ecosystem and cultivation land of the island.

(3) Design Standards to be Applied

The Design Standard TCVN4054-1998 shall be basis of the geometrical design of the roads.

(4) The general layout and types of the approach span bridges are agreed by the Proof Check Consultant with the following conditions:

- The approach span length of 50m is suitable because of the costly and deep foundations.
- Continuous girder type is recommendable to reduce the construction cost.

(5) Type of the Approach Span Bridges

- For the bridge crossing the substream, the bridge type with longer spans should be studied.

- Pushing method for the approach span bridges was suggested by the Proof Check Consultant, and the Study Team will study this method in conjunction with the concrete segmental method which is advantageous for avoiding the concrete problems such as creep and shrinkage.

(6) Hollow slab type was suggested to be considered for the interchange bridges, especially for the rumpways to lower the surface elevation of bridge. The Study Team replied to maximise the utilization of hollow slab type bridge.

(7) Since the bearing stratum exists in the deep layer (60~70m), the larger diameter such as 2.0m of Cast-in-Place Piles should be considered for the bridges from the economical viewpoint. The Study Team will make the further study.

(8) The Proof Check Consultant suggested to study the larger diameter for the Open Caisson Foundations, because the bearing stratum layer exists at the 120m deep.

(9) The girder length for the approach span bridges should be standardized and minimise the number of girder types for simplifying and economising the construction costs.

(10) The Steel Girder of the Mid Span for the Main Bridge

- The Proof Check Consultant requested to study the location of the structural joint between steel and concrete structures of the main girder.

- The Proof Check Consultant suggested to survey the steel girder production in Viet Nam, especially the factory capacity and welding technique.

(11) The specification of the method of the wind tunnel testing for the aerodynamic stability should be reported to MOT, and be included in the Design Criteria.

(12) The maintenance program including arrangement of facilities and methods of maintenance works should be introduced.

(13) System analyses of the foundations for the whole of the project should be introduced for the future utilization to other projects.

(14) The Proof Check Consultant requested to proof the design bearing capacity of the foundations by using instrument of the bearing capacity test.

(15) The Study Team requested to schedule the further discussion on the Detail Design method of the bridges, especially design loadings, application of loadings, and methodology of the structural design.

Adjourned at 12:00 o'clock

LIST OF PARTICIPANTS (9th September 1999)

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	Le Van Thuong	Professor	Hanoi University of Civil Engineering
02.	Tran Binh	Professor	Hanoi University of Civil Engineering
03.	Le Dinh Tam	Professor	Hanoi University of Civil Engineering
04.	Nguyen Xuan Vinh	Professor	Hanoi University of Civil Engineering
05.	Nguyen Xuan Hiep	Manager	Bridge Projects Management Divs. of PMU My Thuan

(2) Japanese Side

No.	Name	Position	Organisation
01.	Koji Enomoto	Team Leader	Study Team, JICA
02.	Koji Nakai	Sub-Team Leader	Study Team, JICA
03.	Kiminori Matsumoto	Bridge Engineer	Study Team, JICA
04.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team, JICA
05.	Kazuaki Nemoto	Highway Engineer	Study Team, JICA
06.	Takashi Kametani	Cost Estimator	Study Team, JICA

MINUTES OF MEETING
ON
THE BASIC DESIGN REPORT
ON
THE DETAILED DESIGN
OF
THE CAN THO BRIDGE CONSTRUCTION
IN
SOCIALIST REPUBLIC OF VIETNAM
BETWEEN
MINISTRY OF TRANSPORT
PROJECT MANAGEMENT UNIT MY THUAN
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
THE STUDY TEAM

Ha Noi, 13th October 1999

Mr. Le Long Dinh
Director General
PMU My Thuan
Ministry of Transport

Mr. Koji Enomoto
Team Leader of Study Team
Japan International
Cooperation Agency

Witnessed by:

Mr. Vu Van Tri
Deputy Director
Transport Construction Quality
Control & Management Dept., MOT

MINUTES OF MEETING

In accordance with the Scope of Work (hereinafter referred to as "S/W") agreed upon on 14 December 1998 between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Ministry of Transport (hereinafter referred to as "MOT"), an Basic Design Report for the Detailed Design of the Can Tho Bridge Construction in Socialist Republic of Viet Nam (hereinafter referred to as "the Study") was submitted by the Study Team of JICA to PMU My Thuan, MOT on 20th September 1999. Team Leader of Study Team of JICA, along with other members of the Study Team, conducted the series of briefing of the Report on 13th October 1999 *in Hanoi.*

Topic of Discussion

After the series of briefing and discussion between the Study Team of JICA and the members of the Vietnamese Government and PMU-My Thuan as the attached list, on the Basic Design Report for the Detailed Design of the Can Tho Bridge Construction, the following contents were confirmed and basically agreed by the participants.

(1) Comments from the MOT to the Study Team

MOT generally approved the output of the Basic Design, MOT will send further comments in writing for the future detail design to the Study Team.

(2) Design Criteria

The Japanese Standards shall be applied to bridge design and the Vietnamese Standard (TCVN4054-1998) and the Standard of Urban Road of MOC shall be applied to highway design. The design criteria for the main bridge shall include the check loading of 200tonne.

(3) Typical Transverse Cross Section

The following conditions for the typical transverse cross sections were concluded:

- The width of the medium strip shall be 1.6m for road embankment section and 0.6m for the main bridge section.
- The concrete barrier provided between the vehicle's lane and non-motorised lane in the Feasibility Study shall be removed.
- Total width of the road embankment and minor bridge on the approach roads section shall be changed from 23.1m (Feasibility Study) to 24.1m.

(4) Vertical Alignment

The longitudinal gradient for the main bridge shall be 4.0percent and for the approach road section shall be less than 4.5 percent.

(5) Connection to the Mid Island

For the connection to the island in the Hau river (Cu Lao Lat), the rumpways for the vehicles shall not be considered from the reasons for car accidents, damages to the

ecosystems, and the cultivation of the island. However, the connection by footway shall be studied.

(6) Project Elevation

The project elevation shall be decided in consideration of flood water levels, the existing elevation of the city area and the planned elevation of Master Plan.

(7) Preparation of Letter to the Government

PMU My Thuan shall prepare the report on the reasons for the changes in horizontal alignment shifted 220m from the Feasibility Study center line and from 500m (Feasibility Study) to 550m for the central span length of the Main Bridge, and submit to the Government.

(8) Design of the Interchange

Road construction to connect from the new Quang Trung bridge to the interchange (No.91) will be requested by MOT to JICA.

The Vietnamese side suggested that the project road should over-pass the existing National Highway No.54 and No.91 with fly-over system. The Study Team, however, proposed that the project road should underpass the above National Highways with underpass system to avoid the problems in drainage of flood water and to reduce the construction cost subject to the further study on cost comparison.

The type of the interchange at the beginning point should be semi Y- type with half intersection system (grade separation type).

The type of the interchange at the end point connecting with the National Highway No.1 to Ca Mau should be changed from the trumpet type with full interchange system to at-grade intersection system.

(9) Accessibility of the Existing Road

Existing road to be crossed by the project alignment should be connected by box culvert structure, especially for the passing points for non-motorways under road embankment.

(10) Type of the Main and Other Bridges

The types of the superstructure and substructure of the main bridge and other bridges were, in general, agreed.

The Hybrid Cable-stayed type including the 200m steel girder at the mid span for the main bridge was also agreed.

The tower height of 150m and A-shaped tower were agreed.

Open caisson foundations for the main bridge towers was agreed.

The bridge type for the approach road section shall be standardised and minimise the number of girder types to simplify the bridge structures and economise the construction cost.

Bore-hole pile foundation for the bridges of the approach road section was agreed. Precast concrete pile foundation should be considered for the shallow bearing stratum of the sub-soil condition.

Slab concrete bridge type was recommended instead of the box-culvert with 6m span length. However, the Study Team proposed the box-culvert to avoid the instability of the foundations in the soft soil of the abutment of slab concrete bridge (horizontal movement).

The span length of 80m for the bridge crossing the sub-stream was agreed.

(11) The Span Length of the Approach Span Bridge

The Vietnamese side agreed the span length of 50m for the approach span bridges subject to further study on other girder types such as I-shaped girder and Super-T beam.

(12) Soft-ground Treatment

Pre-fabricated Vertical Drain (P.V.D.) and Counter-berm of the road embankment were accepted for the treatment of the soft ground. However, the width of the Counter-berm should be optimised to reduce the land acquisition.

(13) Resettlement

Resettlement plan shall be studied in accordance with the Vietnamese Standard of MOC.

The Vietnamese side requested that the design of the vertical alignment and plan of the land acquisition and resettlement should be represented to MOT.

(14) Updating the Construction Cost

PMU My Thuan and the Bureau of Transport Construction Quality Control Management (TCQCM) should update the construction cost, and submit to the Government immediately.

(15) Packaging

5 packages covering the international and domestic tendering for construction were proposed by the Vietnamese side.

The Study Team proposed 2 packages covering the international and domestic tendering, instead of the above 5 packages to simplify the handling of construction and reduce the construction cost.

(16) Implementation Schedule

Both sides of Vietnam and Japan will try to reduce the pre-construction period (Tendering) to 9 months, and construction period should be 50months.

(17) Maintenance Programme

Maintenance programme should be prepared and reported in the Progress Report.

(18) Technology Transfer

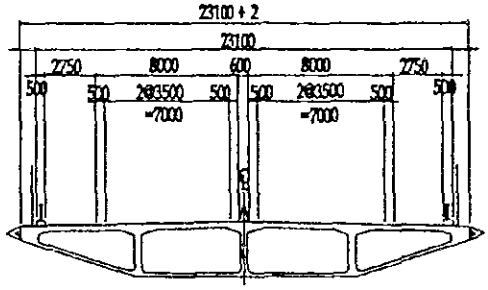
Technology transfer programme should be scheduled and reported in the Progress Report.

ANNEX

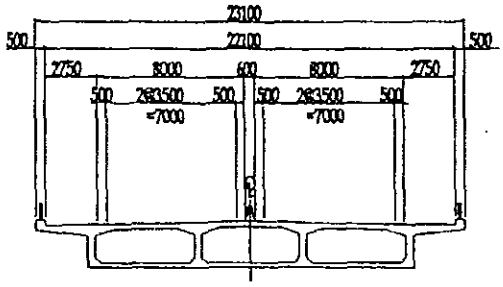
- Typical Transverse Cross Sections
- List of Participants

(1) BRIDGE SECTION

MAIN BRIDGE AND APPROACH SPAN BRIDGE



MINOR BRIDGE IN THE APPROACH ROAD
(L>100m)



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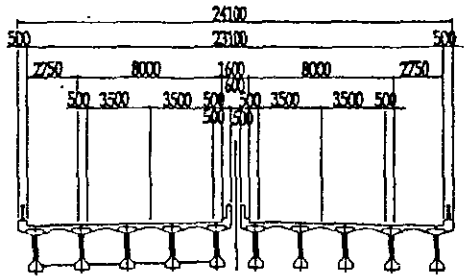
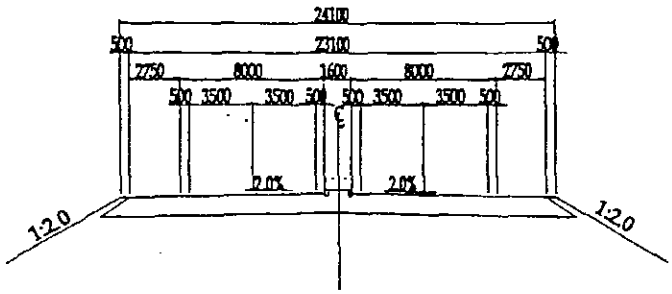
(L<100m)



(2) ROAD EMBANKMENT SECTION



SCALE 1 : 400

THE DETAILED DESIGN OF THE CAN THO BRIDGE CONSTRUCTION IN SOCIALIST REPUBLIC OF VIET NAM	Figure 4.11 Typical Traverse Cross Sections
	JAPAN INTERNATIONAL COOPERATION AGENCY

LIST OF PARTICIPANTS (13th October 1999)

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	Nguyen Viet Tien	Vice Minister	Ministry of Transport (MOT)
02.	Phan Vi Thuy	Chairman of Science & Technology Committee (STC)	Ministry of Transport (MOT)
03.	Vu Van Tri	Deputy Director of Quality Control Bureau (TCQCM)	Ministry of Transport (MOT)
04.	Truong Xuan Khiem	Sub. Leader of Checking office of TCQCM	Ministry of Transport (MOT)
05.	Tran Danh Chi	Sub. Leader of Checking office of TCQCM	Ministry of Transport (MOT)
06.	Tong Tran Tung	Deputy Director of Science & Technology Department (STD)	Ministry of Transport (MOT)
07.	Nguyen Trong Phu	Expert of STD	Ministry of Transport (MOT)
08.	Nguyen Trung Cu	Expert of Planning & Investment Department (PID)	Ministry of Transport (MOT)
09.	Le Long Dinh	Director General of PMU My Thuan	Ministry of Transport (MOT)
10.	Nguyen Xuan Hiep	Chief of Bridge Investment Projects Division of PMU My Thuan	Ministry of Transport (MOT)
11.	Duong Thi Tram Anh	Chief of Representative offfice of PMU My Thuan in Hanoi	Ministry of Transport (MOT)
12.	Nhu Nguyen Hong Cuong	Expert of Representative office of PMU My Thuan in Hanoi	Ministry of Transport (MOT)
13.	Nguyen Viet Bac	Expert of Administration office	Ministry of Transport (MOT)
14.	Nguyen Xuan Giang	Deputy General Director of Transport-Engineering Design Incorporated (TEDI)	Ministry of Transport (MOT)
15.	Doan Viet Cuong	Expert of Transport-Engineering Design Incorporated (TEDI)	Ministry of Transport (MOT)
16.	Ha Nhat Tan	Senior Expert	Ministry of Planning & Investment (MPI)
17.	Hoang Trong Truy	Senior Expert	Ministry of Construction (MOC)
18.	Le Van Thuong	Doctor, Bridge Engineering	Proof Check Consulting to PMU My Thuan, University of Construction
19.	Phan Huy Phap	Doctor, Bridge Engineering	Proof Check Consulting to PMU My Thuan, University of Construction
20.	Tran Dinh Tam	Doctor, Bridge Engineering	Proof Check Consulting to PMU My Thuan, University of Construction
21.	Truong Van Sau	Vice Chairman	People's Committee of Vinh Long Province

(2) Japanese Side (JICA and Study Team)

No.	Name	Position	Organisation
01.	Yuichi Sugano	Assistant Resident Representative	JICA V.N. Office
02.	Dao To Cam	Secretary	JICA V.N. Office
03.	Koji Enomoto	Team Leader	Study Team, JICA
04.	Koji Nakai	Sub-Team Leader	Study Team, JICA
05.	Kazuaki Nemoto	Highway Engineer	Study Team, JICA
06.	Takashi Kametani	Bridge Engineer	Study Team, JICA
07.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA
08.	Tran Dai Minh	Vietnamese Engineer	Study Team, JICA

MINUTES OF MEETING
ON
THE PROGESS REPORT
ON
THE DETAILED DESIGN
OF
THE CAN THO BRIDGE CONSTRUCTION
IN
SOCIALIST REPUBLIC OF VIETNAM
BETWEEN
MINISTRY OF TRANSPORT
PROJECT MANAGEMENT UNIT MY THUAN
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
THE STUDY TEAM

Ha Noi, 21st February 2000

Mr. Le Long Dinh
Director General
PMU My Thuan
Ministry of Transport

Mr. Koji Enomoto
Team Leader of Study Team
Japan International
Cooperation Agency

Witnessed by

Mr. Vu Van Tri
Deputy General Director
Transport Construction
Quality Control and
Management Bureau
Ministry of Transport

MINUTES OF MEETING

In accordance with the Scope of Work (hereinafter referred to as "S/W") agreed upon on 14 December 1998 between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Ministry of Transport (hereinafter referred to as "MOT"), an Progress Report for the Detailed Design of the Can Tho Bridge Construction in Socialist Republic of Viet Nam (hereinafter referred to as "the Study") was submitted by the Study Team of JICA to PMU My Thuan, MOT on 11th February 2000. Team Leader of Study Team of JICA, along with other members of the Study Team, conducted the series of briefing of the Report on 21st February 2000 in Hanoi.

After the series of briefing and discussion between the Study Team of JICA and the members of the Vietnamese Government and PMU-My Thuan as the attached list, on the Progress Report for the Detailed Design of the Can Tho Bridge Construction, the following contents were discussed in consideration of consistency with the Decision of Prime Minister, No.61/QD-TTg, Hanoi, 17th January 2000, and basically agreed by the participants.

1. **Geometrical Condition**

   (1) Alignment and Geometry of the Project, in general, were agreed.

   (2) The radius of 125m for design speed 40km per hour was adopted to connect the future Free Way from Ho Chi Minh City to Cantho, instead of 60km per hour at the connecting point of Vinh Long, beginning point of the Project.

2. **Typical Transverse Cross Section**

   (1) The width of Main Bridge including Approach Span Bridge and Minor Bridges in the approach road sections (more than 100m) were concluded 23.1m for traffic functions and for the road embankment and minor bridges on the approach road sections were 24.1m (detailed is shown in Annex).

   (2) The Study Team shall explain the difference of the bridge widths between the decision of Vietnamese Government and the design width in the Progress Report

3. **Interchange**

   (1) The interchange of the Progress Report was consistency with the Prime Minister's Decision, and accepted.

4. **Aesthetic Aspects**

   (1) Aesthetic aspects shall be considered on the design of the minor bridges, approach span bridges, overpass bridges and highway.

5. **Minor Bridges and Box Culverts in the Approach Road Sections**

   (1) The following conditions shall be considered for the design of minor bridges and box- culverts;

   - Minimizing the span length of bridges
   - Continuous type of girders to be studied

- Hollow slab type to be studied

(2) The Study Team recommended to consider the above conditions with economising the number of foundation piles for determining the bridge type.

(3) The vertical clearance of box culvert for passenger should be minimum 2.5m.

(4) The Vietnamese side suggested to use the precast pile foundation, and the Study Team recommended the bore hole pile because the precast pile has problems in exceeding joints which are required due to the shorter length of precast pile, difficulty to penetrate into the deep bearing stratum (70m), and electric supply, and air or water lifting equipment, and finally costly.

6. **Main Bridge and Approach Span Bridges**

(1) The Vietnamese side suggested to consider and compare to use Super - Tee and Box Girder for the Approach Span Bridges, and reduce the height of I-section girder with continuous deck-slab.

(2) The Study Team recommended I-section girder with continuous deck-slab subject to the submission of reasons for the recommendation.

(3) The required number of anchored piers for the side span of Cable-stayed Bridge shall be explained.

(4) The Vietnamese side suggested to use the Hollow Slab and Box Girder for the approach span bridges of the Main Bridge, however, the Study Team pointed the following problems and proposed I-Girder.

- Hollow slab (Shorter span length) increase the number of foundation piles.
- Box Girder is costly and increases the foundation piles.

(5) The length of the Steel Girder (210m) in main span shall be explained.

(6) Elastmetric bearing shoes on the Main Tower shall be considered in comparison with the rigid type of shoes or connection.

(7) The change of foundation type of Main Towers from open caisson to bore hole piles were agreed, and the preparation of the reasons of this change was requested, especially, the comparison of the construction cost.

(8) The sizes and elevation of the pile cap of the Main Towers shall be carefully studied in consideration of separation distance between piles and water level of the river.

7. **Wind Tunnel Test**

(1) The Vietnamese side requested total bridge model wind tunnel test, the Study Team replied that the total bridge stability against aerodynamic vibration through computer simulation analysis, physical section model test, cable vibration study, and physical tower stability test in accordance with the

construction steps were conducted in the wind tunnel, and all results of the wind tunnel test shall be reported in the next stage.

(2) The Vietnamese side requested the Study Team to supply the Terms of Reference (TOR) and results of test.

8. Natural Data

(1) The Vietnamese side requested the submission of reports on topographic survey and geotechnical investigation, the Study Team will submit them.

(2) The detail information on natural data shall be included in the next report (Draft Final Report).

9. Highway and Bridge Design

(1) The design calculation on soft ground treatment shall be submitted.

(2) The design calculation of pavement structure shall be submitted.

(3) The design calculations of main structures of bridge shall be submitted.

(4) The smoother profile of longitudinal alignment shall be considered.

(5) More design information on the approach road sections shall be included in the next report (Draft Final Report).

10. Design Standard and Criteria

(1) The design standards and design criteria shall be submitted to MOT through PMU My Thuan.

(2) A meeting on the standard and design criteria shall be arranged, and the standard and design criteria to be applied to the Project shall be discussed in detail between Vietnamese side and JICA Study Team.

11. Detail Drawings and Calculation Sheets

(1) The Study Team shall supply the detail drawings and calculation sheets for bridge and highway design to Transportation Construction Quality Control and Management Bureau (TCQCM), MOT and the Proof Checking Consultant through PMU My Thuan.

12. Construction Cost and Project Cost

(1) Construction cost and project cost shall be submitted immediately (at the end of March) by the Study Team.

(2) After that, the Proof Check Consultant will make comments in writing to TCQCM.

13. **Implementation Schedule**

(1) The Vietnamese side requested the following timings of the bridge construction:

- Commencement, beginning of 2001
- Completion, end of 2005

(2) The Implementation schedule should follow the decision of the Vietnamese Government.

14. **Technology Transfer**

(1) The plan of technology transfer shall be planned and arranged.

15. **Obstacle Limitation Surface**

(1) The condition of the Obstacle Limitation Surface of the airport of Tra Noc and Lo Te (No. 31) shall be clarified through the coordination with Ministry of Defence by MOT to define air navigational clearance against the tower structure for keeping on schedule of the Project as the requirement of Prime Minister in Article No.2 of the Decision of Prime Minister.

16. **Land Acquisition**

(1) Alignment of intersection, interchange of approach roads shall be given to People's Committee of Can Tho and Vinh Long Provinces for confirmation of land acquisition.

The Meeting was adjourned at 11:30 a.m.

ANNEX

- List of Participants
- Comparison of Typical Transverse Cross Sections

LIST OF PARTICIPANTS (21st February 2000)

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	Duong Danh Dung	General Director of Transport Construction Quality Control and Management Bureau (TCQCM) of MOT	Ministry of Transport (MOT)
02.	Vu Van Tri	Deputy General Director of TCQCM of MOT	Ministry of Transport (MOT)
03.	Truong Xuan Khiem	Sub. Leader of Checking Office of TCQCM of MOT	Ministry of Transport (MOT)
04.	Le Huu Bau	Leader of Control Office of TCQCM of MOT	Ministry of Transport (MOT)
05.	Tran Danh Chi	Sub. Leader of Control Office of TCQCM of MOT	Ministry of Transport (MOT)
06.	Do Huu Tri	General Director of Science and Technology Department of MOT	Ministry of Transport (MOT)
07.	Le Trong Phu	Senior Expert of Science and Technology Department of MOT	Ministry of Transport (MOT)
08.	Phan Vi Thuy	Chairman of Science and Technology Committee (STC) of MOT	Ministry of Transport (MOT)
09.	Hoang Trong Truy	Senior Expert of Bureau Policy of Ministry of Construction (MOC)	Ministry of Construction (MOC)
10.	Le Long Dinh	Director General of PMU My Thuan	Ministry of Transport (MOT)
11.	Nguyen Xuan Hiep	Chief of Bridge Investment Projects Division of PMU My Thuan	Ministry of Transport (MOT)
12.	Duong Tram Anh	Chief of Representative Office of PMU My Thuan in Hanoi	Ministry of Transport (MOT)
13.	Nhu Nguyen Hong Cuong	Expert of Representative Office of PMU My Thuan in Hanoi	Ministry of Transport (MOT)
14.	Nguyen Van Nham	Doctor - Professor of Transportation University in Hanoi	Proof Check Consulting to PMU My Thuan
15.	Phan Huy Phap	Doctor - Professor of Civil Engineering University in Hanoi	Proof Check Consulting to PMU My Thuan
16.	Le Van Thuong	Doctor - Professor of Civil Engineering University in Hanoi	Proof Check Consulting to PMU My Thuan
17.	Trinh Xuan Cuong	Doctor, Bridge Engineering of TEDI	Proof Check Consulting to PMU My Thuan

(2) Japanese Side (JICA and Study Team)

No.	Name	Position	Organisation
01.	Yuichi Sugano	Assistant Resident Representative	JICA V.N. Office
02.	Koji Enomoto	Team Leader	Study Team, JICA
03.	Takashi Kametani	Bridge Engineer	Study Team, JICA
04.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA

Comparison
Of
Typical Transverse Cross Section
For
Can Tho Bridge

Description	Design Criteria, September 1999, prepared by the Study Team		Prime Minister Decision, 17th January 2000	
1) Motorized lane	4 x 3.5 =	14.0	4 x 3.5 =	14.0
2) Pedestrian lane	2 x 2.75 =	5.5	2 x 2.75 =	5.5
3) Separation band (center)	1 x 0.6 =	0.6	1 x 0.6 =	0.6
4) Safety band	4 x 0.5 =	2.0	4 x 0.5 =	2.0
5) Separation band (curb)	2 x 0.5 =	1.0	2 x 0.5 =	1.0
Total of Traffic Functions		**23.1m**		**23.1m**
6) Anchorage Function of Main Bridge	2 x 0.95 =	1.9	2 x 0.90 =	1.8
Cross Section Width		**25.0m**		**24.9m**
7) Aerodynamic Function	2 x 0.5 =	1.0		-
Total of Structural Width		**26.0m**		**24.9m**

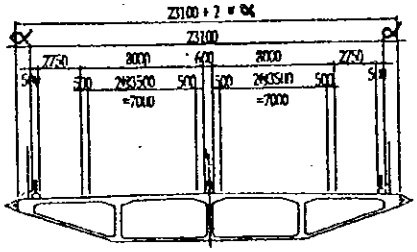
Note: 6) Anchorage Function and 7) Aerodynamic Function are subject to the Detailed Design Results.

Typical Cross Sections

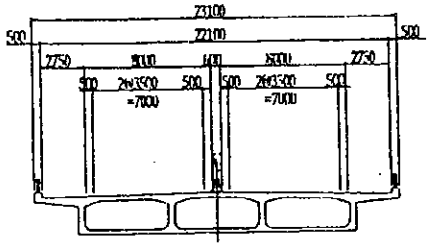
As a result of the review of the Feasibility Study and comparison with cross section of National Highway No.5, the Consultant proposes the cross sections shown in Figure 4-1.

(1) BRIDGE SECTION

MAIN BRIDGE AND APPROACH SPAN BRIDGE

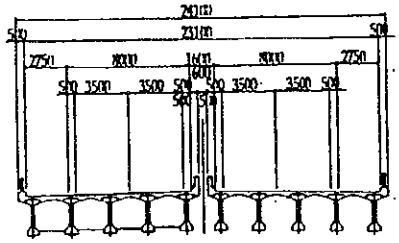


MINOR BRIDGE IN THE APPROACH ROAD



(L ≧ 100m)

MINOR BRIDGE IN THE APPROACH ROAD



(L < 100m)

(2) ROAD EMBANKMENT SECTION

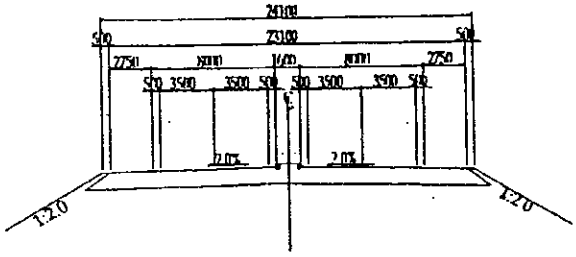


Figure 4-1 TYPICAL CROSS-SECTIONS

MIMUTES OF MEETING
ON
THE DRAFT FINAL REPORT
ON
THE DETAILED DESIGN
OF
THE CAN THO BRIDGE CONSTRUCTION
IN
SOCIALIST REPUBLIC OF VIET NAM
BETWEEN
MINISTRY OF TRANSPORT
PROJECT MANAGEMENT UNIT MY THUAN
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
THE STUDY TEAM

Hanoi, 7 August 2000

Mr. Doan Quang Hung Deputy Director General My Thuan PMU Ministry of Transport	Mr. Koji Enomoto Team Leader of Study Team Japan International Cooperation Agency

Witnessed by

Mr. Duong Danh Dung Director General Transport Construction Quality Control and Management Bureau Ministry of Transport	Mr. Do Huu Tri Director Department of Science and Technology of Ministry of Transport	Mr. Yuichi Sugano Assistant Resident Representative JICA Viet Nam Office

MINUTES OF MEETING

In accordance with the Scope of Work for the Detailed Design of the Can Tho Bridge Construction Project (hereinafter referred to as "S/W" agreed upon on 14 December 1998 between Japan International Co-operation Agency (hereinafter referred to as "JICA") and the Ministry of Transport (hereinafter referred to as "MOT")), the Meeting on the Draft Final Report submitted by the JICA Study Team to MOT, requested by MOT, No. 2352/GTVT-CGD dated 19 July 2000, was held from 1st August through 5th August 2000 in Hanoi.

After a series of discussions between My Thuan PMU and MOT and the JICA Study Team on the Detailed Design of the Can Tho Bridge Construction, the following subjects were concluded and agreed upon by the above parties.

1. Submission of the Draft Final Report

The JICA Study Team submitted 20 copies of the Draft Final Report on 20 May 2000 to MOT in accordance with the S/W for the Can Tho Bridge Construction. My Thuan PMU and MOT acknowledged the receipt of the reports.

2. Application of Technical Standards (referred to the Meeting on 1st August 2000)

2.1 Design of Road Surface Pavement

To adopt the AASHTO's design method for the road surface pavement design based on CBR-Value was agreed. However, the JICA Study Team shall examine the design results by Elastic Modulus Method, and provide the result of examination.

2.2 Standard for the Design of the Weak Soil

The JICA Study Team shall submit the Japanese Standard used for the calculations of the weak soil treatment, and shall examine the calculation with the Vietnamese Standard for the weak soil treatment (22 TCVN244-98, 22TCN248-98 and 22TCN262-2000) which will be provided by the Department of Science and Technology (DOST).

2.3 Design Standard (Design Live Load) for the Large Span Bridge

Since the existing design Standard of AASHTO for normal bridges are only available for the span length for 60 - 150m long, the JICA Study Team shall add the application of the design live loads to the Design Criteria referring to the data which was studied based on the longer span bridges (more than 150m) in the world.

2.4 International Standards related to the Design

The JICA Study Team, requested by DOST, shall submit the International Standards used for the Detailed Design.

2.5 Wind Load

The JICA Study Team shall examine the design result by the static wind data used for the My Thuan Bridge. The My Thuan PMU will provide the wind data to the JICA Study Team for reference.

2.6 Earthquake Effect

The Institute of Geophysics suggested that the earthquake effect (ground acceleration) should be between 0.07g and 0.12g, and the design seismic coefficient should be based on the further study on the seismic intensity of 1,000 year (0.07g for the Project Area) and the consideration on geotechnical condition and the importance of the structure.

Following the above suggestions, the JICA Study Team calculated the elastic seismic response coefficient with the above ground acceleration in accordance with AASHTO Specifications with a soil magnification factor. The JICA Study Team will provide the calculation results of the design seismic coefficient to MOT in accordance with AASHTO Specifications. MOT will make official reply on the design seismic coefficient.

2.7 Shipping Collision Force

DOST requested to examine the design vessel size (10,000 DWT) for shipping collision force. The JICA Study Team explained the vessel collision load adopted to the design with consideration of the following factors in line with AASHTO Specifications:

- Waterway geometry,
- Size, type, loading condition and frequency of vessels using the waterway,
- Available (Navigable) water depth,
- Vessel speed and direction, and
- Structural response of the bridge to collision.

Since the annual frequency of bridge component collapse was not able to analyze due to the absence of actual accident data to estimate probability of aberrancy, the JICA Study Team shall be based on the actual arrival ship record to the Can Tho Port to select the type of vessel collision load for the Final Report.

2.8 Temperature Effect

The statistical data of the temperature (air temperature) shall be considered for the amplitude of the temperature in the bridge girder and for the construction (closure). The My Thuan PMU will provide the temperature data used for the My Thuan Bridge for statistical calculation.

2.9 Riverbed Scouring

DOST requested to explain the reasons of the scientific bases of the shifting of the riverbed scouring from the upstream to the bridge pylon.

The JICA Study Team explained the changes of the riverbed at the bridge site based on the detail hydrological surveys and the results of the simulation analysis.

The hydraulic simulation analysis, instead of the physic model analysis, was conducted to ascertain the safety of the bridge structure in the river from the hydrodynamic

behaviors such as local scouring and riverbank erosion, as agreed in the Minutes of Meeting 12 May 1999.

3. Technical Discussion on the Draft Final Report (referred to the Meeting on 2nd August 2000)

3.1 Submission of the Final Structural Data

The JICA Study Team shall provide the final design data to the Proof Checking Consultant for examination of the structural analysis for the Main Bridge before the Final Report (before the beginning of September).

3.2 Span Length Arrangement and Foundation Pile for the Bridges

- Span Length Arrangement for the Approach Roads

  The JICA Study Team shall review the span length in relation to the navigational clearances and modify the length, if necessary, or explain the reasons to justify the original design.

- Foundation Pile for the Approach Span and Approach Road Bridges

  The JICA Study Team shall review the pile foundation in relation to the geotechnical conditions, and modify the type from bore-hole pile to driven pile and the penetration depth of piles, if necessary, or explain the reasons to justify the original design of bore-hole pile.

3.3 Safety Factors to Structural Design

The following safety factors shall be calculated and modified:

- Equation 1 of AASHTO (LRFD), $\Sigma\eta_i\gamma_i Q_i <= \phi R_n = R_r$

  For the load modifier (η_i), factors relating to ductility, redundancy, and operational importance shall be calculated based on the selection of characteristics of the structural material.

- Coefficients for Safety Control of Structural Design

  Coefficients proposed by the JICA Study Team shall be modified following the figures specified in the AASHTO (LRFD).

3.4 Design of Tower Foundation of the Main Bridge

- North Tower and South Tower Foundations

  The JICA Study Team explained that the design conditions on each tower foundation are different in scouring depth (shallower scouring depth for the North Tower), and no consideration of vessel collision to the North Tower.

  The similar design layout is related to the structural stability balance from the total structural system (to reduce the horizontal force influence to the South Tower).

- Required Number of Foundation Piles

  The JICA Study Team shall re-examine the simultaneous combination of the design factors (earthquake effect, general and local riverbed scouring).

3.5 Flood Flow Direction and Skew of Tributaries for the Bridge Design

The Proof Checking Consultant requested the design of skew bridges for reducing the length of bridges.

The JICA Study Team's opinions were that the direction of the bridge including the substructures should be along with the direction of the flood water (parallel with the flow direction of the Hau River), and keeping right angle for the bridge to the centerline alignment of the Project from the following reasons:

- Flood water flow in parallel with the direction of the Hau River.
- The bridge structures with skew angle will disturb the water flow under the bridges.
- Rotation of the bridge abutments will occur due to imbalance of soil pressure from the road embankment on the weak soil.
- Cost will be increased due to the structural reinforcement for the characteristic of skewed structures.
- Complicated structures will be required due to the sharp skew angle.

However, the further survey in the field to examine the flow directions for the study on the skew angle of the bridge should be conducted in the initial stage of the implementation, and reconsider the skew angle of the bridge, if necessary.

3.6 Review the Control of Road Profile

The Proof Checking Consultant requested, in case the box culvert crossing the road is critical level to control the road profile (elevation), the thickness of cover on the culvert should be reviewed.

The JICA Study Team explained that the thickness of cover on the culverts was required from the consideration to reduce the cracks which might be occurred by the impact force of vehicle's wheels due to the uneven hardness at the culvert edge and to maintain more

comfortableness to the vehicles. Therefore, the profile design in the Draft Final Report is suitable.

4. Discussion on the Cost (referred to the Meeting on 5th August 2000)

4.1 Brief Explanation on the Cost Estimate

The JICA Study Team made the brief explanation on the cost estimate for construction and project costs, increased costs from F/S and its reasons, fundamental procedures for cost estimate including unit prices.

4.2 Review of the Construction and Project Costs

The following comments were made by the Vietnamese side.

- The design quantities of the Draft Final Report shall be reviewed based on the technical discussions between the Vietnamese representatives and the JICA Study Team.

- The Transport Construction Quality Control and Management Bureau (TCQM) will clarify and settle the procedures on the indirect costs of the Project and will report to MOT.

- The JICA Study Team shall review the design quantities and unit prices to economize the construction costs.

- The JICA Study Team will provide the latest cost estimate to TCQM before 15th August 2000. TCQM will provide the comments on the cost estimate to the JICA Study Team at latest 20 August 2000. Based on these comments, the JICA Study Team will reply his opinions and preliminary cost estimate on 30 August 2000.

5. Submission of Final Report

The Final Report shall be submitted based on the following schedule.

- The JICA Study Team shall provide all results of the examination, requested during the technical discussions, by 25th August 2000.

- The official comments on technical and cost estimate from the Government of Viet Nam (GOV) on the Draft Final Report and Draft Tender Documents for the Final Report shall be provided to JICA by 10th September 2000 in accordance with the Scope of Work signed on 14 December 1998.

- The Final Report shall be submitted to GOV at the end of October 2000 after receipt of the written comments on the Draft Final Report and Draft Tender Documents from GOV.

ANNEX

LIST OF PARTICIPANTS

- 1st August 2000, Application of Technical Standard
- 2nd August 2000, Technical Discussion on Draft Final Report
- 4th August 2000, Discussion on Draft Final Report with MOT
- 5th August 2000, Discussion on the Cost

LIST OF PARTICIPANTS

Date: 1st August 2000, **Application of Technical Standard**

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	DO HUU TRI	Director	Department of Science & Technology of Ministry of Transport
02.	TONG TRAN TUNG	Deputy Director	Department of Science & Technology of Ministry of Transport
03.	VU VAN TRI	Deputy Director	Transport Construction Quality Control and Management Bureau of Ministry of Transport
04.	TRUONG XUAN KHIEM	Deputy Manager	Proof check Division of Transport Construction Quality Control and Management Bureau of Ministry of Transport
05.	PHAN VI THUY	President	Science & Technology Committee of Ministry of Transport
06.	NGUYEN TRONG PHU	Senior Expert	Department of Science & Technology of Ministry of Transport
07.	MAI VAN HONG	Senior Expert	Department of Science & Technology of Ministry of Transport
08.	NGUYEN TRUNG CU	Senior Expert	Department of Planing & Investment of Ministry of Transport
09.	DOAN QUANG HUNG	Deputy General Director	Project Management Unit MY THUAN of Ministry of Transport
10.	NGUYEN XUAN HIEP	Vice Project Manager	The Can Tho Bridge Project of MY THUAN Project Management Unit of Ministry of Transport
11.	NGUYEN DAI HA	Director	Waterway Management Division of Vietnam Inland Waterway Bureau of Ministry of Transport
12.	NGUYEN NGOC LONG	General Director	Transport Engineering Design Inc. of Ministry of Transport

13.	CHU NGOC SUNG	Director	Bridge Design Co. of Transport Engineering Design Inc.
14.	TRINH XUAN CUONG	Director	Project Management Division of Transport Engineering Design Inc. (Proof check Consultants)
15.	PHAM HUU SON	Deputy Director	Project Management Division of Transport Engineering Design Inc. (Proof check Consultants)
16.	DAO XUAN LAM	Senior Expert	Technical Advisor of Ministry of Transport
17.	TRAN DUC NHIEM	Senior Expert	Hanoi Construction University
18.	DUONG HOC HAI	Professor	Hanoi Construction University
19.	LE DINH TAM	Professor	Hanoi Construction University (Proof check Consultant)
20.	DO DOAN HAI	Professor	Vietnam Road and Bridge ASSOCIATION
21.	LE TU SON	Chief Division	Geophysics Institute
22.	LE NANG DAT	Vice Manager	Bridge Section of the Science and Technology Institute
23.	NGUYEN NHU HONG CUONG	Expert	MY THUAN Project Management Unit of Ministry of Transport

(2) Japanese Side (JICA and Study Team)

No.	Name	Position	Organisation
01.	Morimasa Kanamaru	Resident Representative	JICA V.N. Office
02.	Yuichi Sugano	Assistant Resident Representative	JICA V.N. Office
03.	Koji Enomoto	Team Leader	Study Team, JICA
04.	Koji Nakai	Co-Team Leader	Study Team, JICA
05.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team, JICA
06.	Takashi Kametani	Bridge Engineer	Study Team, JICA
07.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA

LIST OF PARTICIPANTS

Date: 2nd August 2000, **Technical Discussion on Draft Final Report**

(1) Vietnamese Side:

No.	Name	Position	Organisation
01.	VU VAN TRI	Deputy Director	Transport Construction Quality Control and Management Bureau of Ministry Of Transport
02.	TRUONG XUAN KHIEM	Deputy Manager	Proof check Division of Transport Construction Quality Control and Management Bureau of Ministry of Transport
03.	PHAN VI THUY	President	Science & Technology Committee of Ministry of Transport
04.	NGUYEN TRONG PHU	Senior Expert	Department of Science & Technology of Ministry Of Transport
05.	DOAN QUANG HUNG	Deputy General Director	Project Management Unit MY THUAN of Ministry Of Transport
06.	NGUYEN XUAN HIEP	Vice Project Manager	The Can Tho Bridge Project of MY THUAN Project Management Unit of Ministry of Transport
07.	LE VAN THUONG	Professor	Hanoi Construction University (Proof check Consultant)g
08.	LE DINH TAM	Professor	Hanoi Construction University (Proof check Consultant)
09.	PHAN HUY PHAP	Doctor	Hanoi Construction University (Proof check Consultant)
10.	TRINH XUAN CUONG	Director	Transport Engineering Design Inc. (Proof check Consultant)
11.	BUI HUU HUONG	Bridge Engineer	Transport Engineering Design Inc. (Proof check Consultant)
12.	NGUYEN DUC THUAN	Bridge Engineer	Transport Engineering Design Inc. (Proof check Consultant)

(2) Japanese Side (JICA Study Team)

No.	Name	Position	Organisation
01.	Koji Enomoto	Team Leader	Study Team, JICA
02.	Koji Nakai	Co-Team Leader	Study Team, JICA
03.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team, JICA
04.	Takashi Kametani	Bridge Engineer	Study Team, JICA
05.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA
06.	Cao Thi Kim Thu	Secretary	Nippon Koei

LIST OF PARTICIPANTS

Date: 4th August 2000, **Discussion on Draft Final Report with MOT**

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	NGUYEN VIET TIEN	Vice Minister	Ministry of Transport
02.	DUONG DANH DUNG	Director	Transport Construction Quality Control and Management Bureau of Ministry of Transport
03.	VU VAN TRI	Vice Director	Transport Construction Quality Control and Management Bureau of MOT
04.	DO HUU TRI	Director	Department of Science & Technology of MOT
05.	PHAN VI THUY	President	Science & Technology Committee of Ministry of Transport
06.	TRUONG XUAN KHIEM	Deputy Manager	Proof check Division of Transport Construction Quality Control and Management Bureau of Ministry Of Transport
07.	LE LONG DINH	General Director	Project Management Unit MY THUAN of Ministry Of Transport
08.	DOAN QUANG HUNG	Deputy General Director	Project Management Unit MY THUAN of Ministry of Transport
09.	NGUYEN XUAN HIEP	Vice Project Manager	The Can Tho Bridge Project of MY THUAN Project Management Unit of Ministry of Transport
10.	NHU NGUYEN HONG CUONG	Engineer	Project Management Unit MY THUAN of Ministry of Transport
11.	PHAN BA DUNG	Deputy Director	Transport Engineering Design Inc.- South
12.	TRAN DAI MINH	Chief Engineer	Transport Engineering Design Inc. -South
13.	NGUYEN XUAN GIANG	Deputy General Director	Transport Engineering Design Inc.

14.	TRINH XUAN CUONG	Director	Transport Engineering Design Inc.(Proof check Consultant)
15.	PHAM HUU SON	Deputy Director	Transport Engineering Design Inc.(Proof check Consultant)
16.	THIEU DANG KHOA	Deputy General Director	Vietnam Road Administration Bureau of Ministry of Transport
17.	LE MANH TIEN	Deputy Director	Vietnam Road Administration Bureau of Ministry of Transport
18.	SI VAN KHANH	Deputy General Director	Vietnam Inland Waterway Bureau of Ministry of Transport.
19.	NGUYEN DAI HA	Director	Vietnam Inland Waterway Bureau of Ministry of Transport
20.	NGUYEN VIET BAC	Secretary of Vice Minister	Ministry of Transport
21.	LE VAN THUONG	Professor	Hanoi Construction University. (Proof check Consultant)
22.	LE DINH TAM	Professor	Hanoi Construction University. (Proof check Consultant)
23.	PHAN HUY PHAP	Doctor	Hanoi Construction University. (Proof check Consultant)
24.	DO BA CHUONG	Doctor	Hanoi Construction University. (Proof check Consultant)
25.	NGUYEN TRUNG CU	Senior Expert	Department of Planing & Investment of Ministry of Transport

(2) Japanese Side

No.	Name	Position	Organisation
01.	Shoichi Miyazaki	First Secretary	Embassy of Japan
02.	Takeo Shimokawa	Representative	JBIC V.N. Office
03.	Takashi Hatakeyama	Deputy Resident Representative	JICA V.N. Office
04.	Yuichi Sugano	Assistant Resident Representative	JICA V.N. Office
05.	Dao To Cam	Secretary	JICA V.N. Office
06.	Koji Enomoto	Team Leader	Study Team, JICA
07.	Koji Nakai	Co-Team Leader	Study Team, JICA
08.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team, JICA
09.	Takashi Kametani	Bridge Engineer	Study Team, JICA
10.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA

LIST OF PARTICIPANTS

Date: 5th August 2000, **Discussion on the Cost**

(1) Vietnamese Side

No.	Name	Position	Organisation
01.	VU VAN TRI	Director	Transport Construction Quality Control and Management Bureau of Ministry of Transport
02.	TRAN QUOC VIET	Manager	Proof check Division of Transport Construction Quality Control and Management Bureau of Ministry of Transport
03.	TRUONG XUAN KHIEM	Deputy Manager	Proof check Division of Transport Construction Quality Control and Management Bureau of Ministry of Transport
04.	NGUYEN TRUNG CU	Senior Expert	Department of Planing & Investment of Ministry of Transport
05.	LE LONG DINH	Gerieral Director	Project Management Unit MY THUAN of Ministry of Transport
06.	DOAN QUANG HUNG	Deputy General Director	Project Management Unit MY THUAN of Ministry of Transport
07.	NGUYEN XUAN HIEP	Vice Project Manager	The Can Tho Bridge Project of MY THUAN Project Management Unit of Ministry of Transport
08.	NGUYEN HONG CUONG	Engineer	Project Management Unit MY THUAN of Ministry of Transport
09.	BUI HOANG YEN	Director	Economical Construction Institute of Ministry of Construction
10.	NGUYEN PHONG KHAI	Expert	Economical Construction Institute of Ministry of Construction

(2) Japanese Side

No.	Name	Position	Organisation
01.	Shoichi Miyazaki	First Secretary	Embassy of Japan
02.	Takeo Shimokawa	Representative	JBIC V.N. Office
03.	Yuichi Sugano	Assistant Resident Representative	JICA V.N. Office
04.	Koji Enomoto	Team Leader	Study Team, JICA
05.	Koji Nakai	Co-Team Leader	Study Team, JICA
06.	Shigeyoshi Kiguchi	Bridge Engineer	Study Team, JICA
07.	Takashi Kametani	Bridge Engineer	Study Team, JICA
08.	Nguyen Van Thanh	Vietnamese Engineer	Study Team, JICA

1.7 The Conclusion of Vice Minister (No. 1696/TB-GTVT), 27 October 1999

MINISTRY OF TRANSPORT

Ref. No.1696/TB-GTVT

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

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Hanoi, October 27, 1999

NOTICE

The conclusion of Vice Minister - Nguyen Viet Tien about proof check the Basic Design of the Can Tho Bridge Construction Project.

Dated 13 October 1999, the Vice Minister Nguyen Viet Tien chaired a proof check conference about the Basic Design of the Can Tho Bridge Construction Project. Participants include the Representative of Ministry of Planning & Investment, Ministry of Construction, The People's Committee of Vinh Long Province, Planning & Investment Department, Science & Technology Department, Science & Technology Committee of Ministry of Transport, Transport Construction Quality Control Management Bureau (TCQCM), My Thuan Projects Management Unit, Proof Check organizes: Transport Engineering Design Incorporated (TEDI) and Foundation Technology Center of Ha Noi Construction University, Designing Organizes: Nippon Koei Co., Ltd (Japan) and Transport Engineering Design Incorporated (TEDI South), Japan International Cooperation Agency (JICA).

After reporting of the Representative of Nippon Koei Co., Ltd - Study Team, comments of Proof Check Units of Basic Design and the Representative of relevant Authorities, Vice Minister Nguyen Viet Tien has conclusion as below:

1. Proof Check Basic

Due to Prime Minister did not approve FS report yet, so the Proof Check of Basic Design was based on as below:

- Document of FS report of Can Tho Bridge for submitting
- Document No. 976/GTVT/KHDT dated 30 March 1999, No. 1699/GTVT/KHDT dated 28 May 1999 and No. 3431/GTVT/KHDT dated 4 October 1999 of Ministry of Transport that was submitted to Prime Minister for explanation about Can Tho Bridge Construction Project.
- Document No. 44/TDNN dated 14 April 1999 of the State Proof Check Committee for the Investment Project which is submitted to Prime Minister about Proof-check report of Can Tho Bridge Construction Project.

2. Basic Design Contents:

After considering Basic Design contents, the Conference recognizes that document is meet to demand, the following contents were confirmed:

a) Design Criteria

- Bridge Design Criteria: Agreed to Document No. 44/TDNN dated 14 April 1999 of State Proof Check Committee for the Investment Projects which were submitted to Prime Minister.

- Highway Design Criteria: In accordance with TCVN 4054-98 and 20 TCN 104-83

- It should consider the load of heavy truck.

b) Route: Agreement to removing routes 220m to down stream.

c) Layout and Design Solution of Bridge passing over Can Tho River: Agreed to the reporting as in meeting

d) Scale and Design Solution of Approach Road: Agreed to horizontal alignment, vertical alignment, cross section, treatment solution, pavement structure, interchanges with Highway No. 54 and interchanges in Can Tho City.

e) Packaging:

- Package 1: Approach road and bridges on approach road in Vinh Long Side

- Package 2: Main Bridge Construction

- Package 3: Approach road and bridges on approach road in Can Tho side

- Package 4: Resettlement areas in Vinh Long Side

- Package 5: Resettlement areas in Can Tho side

f) Construction Schedule

Study Team should study to reduce construction time from 55 months to 50 months, to try to reduce tender time and procedure before construction implementation.

3. Problems need to be study

a) Route

- It is suitable when Study Team removes route to downstream 220m. However, it should be have explanation report about reasons of removing and increasing the

length of bridge, the length of main span, the deep of tower foundation. Then, calculation and comparison the technical & economic target and relevant social problems.

- Review red line (longitudinal profile) level of road and water level in accordance with design frequency for suitable to Master Plan of Can Tho City.

b) Interchange

- Interchange N1 between Highway No.1 and Bridge passing over Tra Da river should be studied for suitable to next report.

- For interchange N2, it should calculate alternative Highway No.1 Bridge passing over Highway No.54 (Fly-over type) for comparison and detailed explanation in the next report.

- It should study to design interchange N3 (there are not conflicting points) connecting to Quang Trung Bridge; especially connection road from interchange N3 to Quang Trung bridge, Ministry of Transport will work together with JICA and OECF for the plan of additional budget.

- Interchange N4 to Ca Mau is designed at grade due to divergence and convergence lane and the length of rumpways for reducing the conflict.

c) Structure

For main bridge constructions, bridge on approach road and sub construction:

- It should have detailed explanation about technique and economy of increasing center span of main bridge from 500m to 550m.

- Calculation and selection united span for bridge passing over small rivers, canals that is guaranteed about economical and technical aspect.

- Comparison the economical aspect between bored pile and reinforced concrete driving pile for applying bridges passing over small river,

- Addition to box culvert for suitable to crossing the project in the road density inhabitant areas. For big culvert, it should compare with the Slab Bridge.

- Design stairs to Lat Island for pedestrians, it should not design the rumpways from bridge to the island because it is very difficult for expanding bridge.

d) Resettlement and Land Acquisition

Studying, designing resettlement areas in accordance with standards of Ministry of Construction combining with master plan and long-term inhabitant development.

4. Others

a) Design should be have the best economical -technical solution for reducing construction cost. Assignment Transport Construction Qualification Control Management Bureau and PMU My Thuan to work together with Study Team for the total of cost estimation and unit price followed to the regulation of Viet Nam and international conventions, it shouldn't beyond the project cost that was submitted

b) Planning & Investment Department based on the Basic Design for supplement submission of FS Report to Prime Minister and the National Assembly.

Ministry of Transport would like to inform the conclusion of Vice Minister Nguyen Viet Tien to relevant Authorities and Units for implementation.

For and On behalf of Minister

The Deputy Chief of TCQCM Bureau

(Signed and sealed)

Vu Van Tri

C/C:

- Minister (for reporting)
- Deputy Minister Nguyen Viet Tien
- Deputy Minister Nguyen Tan Man
- Authorities, Units as in attached list
- File: Office, Administration Office

The list of participants of Meeting regarding Basic Design of Can Tho Bridge Construction Project hold on 13 October 1999 with Chairman of Meeting- Vice Minister Nguyen Viet Tien,

I. Ministry of Transport

1) *Bureau of Proof Check & Transport Construction Quality Control Management*

- Mr. Vu Van Tri - Deputy Director
- Mr. Truong Xuan Khiem - Sub. Leader of Checking Office of TCQCM
- Mr. Tran Danh Chi - Sub. Leader of Checking Office of TCQCM

2) *Planning and Investment Department*

- Mr. Nguyen Trung Cu - Expert of Planning and Investment Department

3) *Science and Technology Department*

- Mr. Tong Tran Tung - Deputy Director of Science and Technology Department
- Mr. Nguyen Trong Phu - Expert of STD

4) *PMU My Thuan*

- Mr. Le Long Dinh - Director General of PMU My Thuan
- Mr. Nguyen Xuan Hiep - Chief of Bridge Investment Projects Division of PMU My Thuan
- Mrs. Duong Thi Tram Anh - Chief of Representative Office of PMU My Thuan in Ha Noi
- Mr. Nhu Nguyen Hong Cuong - Expert of Representative Office of PMU My Thuan in Ha Noi

5) *Science and Technology Committee of Ministry of Transport*

- Mr. Phan Vi Thuy - Chaiman of Science and Technology Committee

6) *Office of Ministry of Transport*

- Mr. Nguyen Viet Bac - Expert of Administration Office

II. **Ministry of Planning and Investment**

- Mr. Ha Nhat Tan - Senior Expert

III. **Ministry of Construction**

- Mr. Hoang Trong Truy - Senior Expert

IV. **The People's Committee of Vinh Long Province**

- Mr. Truong Van Sau - Vice Chairman

V. **Proof Check Consultant**

1) *Transport Engineering Design Incorporated (TEDI)*

- Mr. Nguyen Xuan Giang - Deputy General Director
- Mr. Doan Viet Cuong - Expert

2) *University if Construction*

- Mr. Le Van Thuong - Doctor
- Mr. Phan Huy Phap - Doctor, Bridge Engineering
- Mr. Tran Dinh Tam - Doctor, Bridge Engineering

VI. **JICA**

- Mr. Yuichi Sugano - Assistant Resident Representative
- Miss Dao To Cam - Secretary

VII. **NIPPON KOEI CO., LTD. & TEDI SOUTH**

- Mr. Koji Enomoto - Team Leader
- Mr. Koji Nakai - Sub. Team Leader
- Mr. Kazuaki Nemoto - Highway Engineer
- Mr. Takashi Kametani - Bridge Engineer
- Mr. Tran Dai Minh - Manager of Bridge Division (TEDI South)
- Mr. Nguyen Van Thanh - Consultant (TEDI South).

BỘ GIAO THÔNG VẬN TẢI	CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM Độc lập – Tự do – Hạnh phúc
Số: 1696 /TB/GTVT/CGĐ	*Hà Nội, ngày 27 tháng 10 năm 1999*

THÔNG BÁO

Kết luận của Thứ trưởng Nguyễn Việt Tiến v/v thẩm định thiết kế cơ bản Dự án xây dựng cầu Cần Thơ

Ngày 13/10/1999, Thứ trưởng Nguyễn Việt Tiến đã chủ trì Hội nghị thẩm định thiết kế cơ bản Dự án xây dựng cầu Cần Thơ. Tham dự Hội nghị có đại diện của Bộ Kế hoạch và Đầu tư, Bộ Xây dựng, UBND tỉnh Vĩnh Long, Vụ Kế hoạch Đầu tư, Vụ Khoa học Công nghệ, Hội đồng KHCN Bộ Giao thông vận tải, Cục Giám định và quản lý chất lượng công trình giao thông, Ban Quản lý dự án Mỹ Thuận, các đơn vị thẩm định: Tổng công ty Tư vấn thiết kế GTVT và Trung tâm Kỹ thuật nền móng trường Đại học Xây dựng Hà Nội, đơn vị thiết kế: Công ty Tư vấn Nippon Koei (Nhật bản) và Công ty TVTK GTVT phía Nam, Cơ quan Hỗ trợ hợp tác quốc tế Nhật bản (JICA). (có danh sách kèm theo)

Sau khi nghe phần trình bầy của đại diện Công ty Nippon Koei – đơn vị tư vấn thiết kế, ý kiến của các đơn vị thẩm định thiết kế cơ bản và đại diện các cơ quan hữu quan, Thứ trưởng Nguyễn Việt Tiến đã kết luận như sau:

1. Căn cứ thẩm định

Do Báo cáo NCKT chưa được Thủ tướng Chính phủ phê duyệt, vì vậy việc thẩm định thiết kế cơ bản dựa trên các cơ sở sau:

- Tài liệu trình duyệt Báo cáo NCKT cầu Cần Thơ.
- Các văn bản số 976/GTVT/KHĐT ngày 30/3/1999, số 1699/GTVT/KHĐT ngày 28/5/1999 và số 3431/GTVT/KHĐT ngày 4/10/1999 của Bộ Giao thông vận tải gửi Thủ tướng Chính phủ để giải trình về Dự án xây dựng cầu Cần Thơ.
- Văn bản số 44/TĐNN ngày 14/4/1999 của Hội đồng thẩm định nhà nước về các dự án đầu tư gửi Thủ tướng Chính phủ v/v báo cáo thẩm định Dự án đầu tư cầu Cần Thơ.

2. Nội dung thiết kế cơ bản:

Qua xem xét nội dung thiết kế cơ bản, Hội nghị nhận thấy tài liệu đã đảm bảo yêu cầu, trong đó chấp nhận các vấn đề sau:

a) Tiêu chuẩn thiết kế:

- Tiêu chuẩn thiết kế cầu: thống nhất như văn bản số 44/TĐNN ngày 14/4/1999 của Hội đồng thẩm định nhà nước về các dự án đầu tư trình Thủ tướng Chính phủ.
- Tiêu chuẩn thiết kế đường: áp dụng theo TCVN 4054-98 và 20 TCN 104-83.
- Cần xem xét thêm tải trọng của xe nặng.

b) Hướng tuyến: Chấp nhận việc di chuyển tuyến 220m về phía hạ lưu.

c) Sơ đồ và giải pháp thiết kế cầu qua sông Cần Thơ: Chấp nhận như đã trình bầy.

d) Quy mô và các giải pháp thiết kế đường dẫn: chấp nhận về bình đồ, trắc dọc, mặt cắt ngang, biện pháp gia cố, kết cấu mặt đường, nút giao với Quốc lộ 54 và nút giao trong thành phố Cần Thơ.

e) Phân chia gói thầu

- Gói thầu 1: đường dẫn và các cầu trên đường dẫn phía Vĩnh Long
- Gói thầu 2: thi công cầu chính
- Gói thầu 3: đường dẫn và các cầu trên đường dẫn phía Cần Thơ
- Gói thầu 4: khu tái định cư phía Vĩnh Long
- Gói thầu 5: khu tái định cư phía Cần Thơ

f) Tiến độ thi công:

Tư vấn thiết kế (TVTK) cần nghiên cứu để rút ngắn tiến độ thi công từ 55 tháng xuống 50 tháng, cố gắng rút ngắn thời gian đấu thầu và làm các thủ tục trước khi tiến hành xây dựng.

3. Các vấn đề cần nghiên cứu bổ sung

a) Về tuyến

- TVTK dịch chuyển tuyến lui về phía hạ lưu 220 m là hợp lý, nhưng cần có báo cáo giải trình lý do dịch chuyển cũng như việc tăng chiều dài cầu, chiều dài nhịp chính, chiều sâu móng trụ tháp. Sau đó tính toán so sánh các chỉ tiêu kinh tế – kỹ thuật và vấn đề xã hội có liên quan.
- Kiểm tra lại cao độ đường đỏ của đường và cao độ mực nước theo tần suất thiết kế đã phù hợp với quy hoạch của thành phố Cần Thơ chưa.

b) Về nút giao

- Nút giao N1 giữa QL1 với cầu vượt sông Trà Đá cần nghiên cứu bổ sung cho hợp lý ở báo cáo tiếp theo.
- Đối với nút N2, nên tính toán thêm phương án cầu QL1 vượt qua QL54 (dạng fly-over) để so sánh và giải trình chi tiết trong báo cáo tiếp theo.
- Cần thiết kế một nút giao N3 khác mức hoàn chỉnh (không có các điểm xung đột) nối với cầu Quang Trung; riêng đoạn đường nối từ nút giao N3 đến cầu Quang Trung, Vụ Kế hoạch Đầu tư và Ban QLDA Mỹ Thuận sẽ làm việc với JICA và JBIC để bổ sung thiết kế và vốn.

- Nút giao N4 đi Cà Mau thiết kế giao bằng theo nguyên tắc tách làn, nhập làn và chiều dài trộn dòng phù hợp để hạn chế xung đột.

c) Về kết cấu:

Đối với các công trình cầu chính, cầu trên đường dẫn và công trình phụ trợ:

- Cần có giải trình chi tiết hơn về kỹ thuật và kinh tế của việc tăng nhịp giữa cầu chính từ 500m lên 550m.
- Tính toán chọn ra nhịp thống nhất cho các cầu vượt sông nhỏ, kênh rạch đảm bảo tính kinh tế và kỹ thuật.
- So sánh về mặt kinh tế giữa cọc khoan nhồi và cọc đóng bằng BTCT để áp dụng cho các cầu qua sông nhỏ.
- Cần bổ sung cống chui phục vụ dân sinh cho phù hợp những đoạn đường qua khu đông dân cư, với các cống lớn cần so sánh thêm phương án dùng cầu bản.

d) Về GPMB và tái định cư

Nghiên cứu, thiết kế khu tái định cư theo tiêu chuẩn của Bộ Xây dựng kết hợp với việc định hướng quy hoạch và phát triển dân sinh lâu dài.

4. Những vấn đề khác

a) Thiết kế phải đưa ra giải pháp kỹ thuật kinh tế nhất nhằm giảm giá thành. Giao Cục Giám định và quản lý chất lượng công trình giao thông và Ban Quản lý dự án Mỹ Thuận làm việc với tư vấn thiết kế để thống nhất cơ cấu tổng dự toán và đơn giá theo đúng quy định của Việt Nam và thông lệ quốc tế, cố gắng đảm bảo không vượt tổng mức đầu tư đã trình.

b) Vụ Kế hoạch Đầu tư căn cứ thiết kế cơ bản làm tờ trình bổ sung Báo cáo NCKT trình Thủ tướng Chính phủ và Quốc hội.

Bộ Giao thông vận tải xin thông báo các ý kiến kết luận của Thứ trưởng Nguyễn Việt Tiến để các cơ quan và đơn vị có liên quan triển khai thực hiện.

T/L BỘ TRƯỞNG
PHÓ CỤC TRƯỞNG CỤC GĐ & QLCL CTGT

Vũ Văn Trí

Nơi nhận:
- Bộ trưởng (để b/c);
- Thứ trưởng Nguyễn Việt Tiến (-nt-);
- Thứ trưởng Nguyễn Tấn Mẫn (-nt-);
- Các cơ quan, đơn vị như danh sách kèm theo;
- Lưu: HC, VP
- .

Danh sách các đại biểu tham dự Hội nghị thông qua thiết kế cơ bản cầu Cần Thơ do Thứ trưởng Nguyễn Việt Tiến chủ trì ngày 13/10/1999

I/ Bộ Giao thông vận tải

1/ Cục Giám định và quản lý chất lương công trình giao thông:

- Ông Vũ Văn Trí: Phó cục trưởng
- Ông Trương Xuân Khiêm: Phó ban Thẩm định
- Ông Trần Danh Chi: Phó ban Giám định

2/ Vụ Kế hoạch Đầu tư:

- Ông Nguyễn Trung Cử: chuyên viên cầu

3/ Vụ Khoa học Công nghệ:

- Ông Tống Trần Tùng: Phó vụ trưởng
- Ông Nguyễn Trọng Phú: chuyên viên

4/ Ban Quản lý dự án Mỹ Thuận:

- Ông Lê Long Đình: Tổng giám đốc
- Ông Nguyễn Xuân Hiệp: Trưởng phòng QLDA cầu
- Bà Dương Thị Trâm Anh: Trưởng đại diện Ban Quản lý dự án Mỹ Thuận tại Hà Nội
- Ông Nhữ Nguyễn Hồng Cương: chuyên viên

5/ Hội đồng KHCN Bộ Giao thông vận tải

- Ông Phan Vị Thủy: Chủ tịch hội đồng

6/ Văn phòng Bộ Giao thông vận tải:

- Ông Nguyễn Việt Bắc: Chuyên viên

II/ Bộ Kế hoạch và Đầu tư:

- Ông Hà Nhật Tân: chuyên viên cao cấp Văn phòng Thẩm định

III/ Bộ Xây dựng:

- Ông Hoàng Trọng Truy: chuyên viên cao cấp Vụ Chính sách xây dựng

IV/ UBND tỉnh Vĩnh Long

- Ông Trương Văn Sáu: Phó chủ tịch

V/ Tư vấn thẩm định:

1/ Tổng công ty Tư vấn thiết kế GTVT:

- Ông Nguyễn Xuân Giảng: Phó tổng giám đốc
- Ông Đoàn Việt Cường: chuyên viên

2/ Trung tâm Kỹ thuật nền móng – Trường Đại học xây dựng Hà Nội:

- Ông Lê Văn Thưởng: Giáo sư
- Ông Phan Huy Pháp: PTS cầu
- Ông Trần Đình Tâm: PTS cầu

VI/ JICA:

- Ông Yuichi Sugano: Trợ lý VPĐD tại Việt Nam
- Cô Đào Tố Cầm: Thư ký

VII/ Tư vấn thiết kế Nippon Koei & Công ty TVTK GTVT phía Nam (TEDI South):

- Ông Koji Enomoto: Trưởng nhóm TVTK
- Ông Koji Nakai: Phó trưởng đoàn
- Ông Kazuaki Nemoto: Kỹsư đường
- Ông Takashi Kametani: Kỹ sư cầu
- Ông Trần Đại Minh: Trưởng phòng cầu TEDI South
- Ông Nguyễn Văn Thanh: cố vấn TEDI South

GOVERNEMENT

SOCIALIST REPUBLIC OF VIET NAM

Independence - Freedom - Happiness

No. /2000/ QD-TTg

Ha Noi, January 2000

THE DECISION OF PRIME MINISTER

About approval of the Can Tho Bridge Construction Investment Project on National Highway No.1A

PRIME MINISTER

With reference to Government Organization Law dated 30th September 1992;

Considering the proposal of Ministry of Transport (Document No. 64/TT/GTVT-KHDT dated 7th January 1999, Document No. 3431/TT/GTVT-KHDT dated 4th October 1999 and No. 4284/TT/GTVT-KHDT dated 23rd November 1999) and the comments of State Proof Check Board about investment projects in Document No. 44/TDNN dated 14th April 1999 and Document No.105/ TDNN dated 30th December 1999)

DECISION

ARTICLE 1: Investing the Can Tho Bridge Construction Project on National Highway No.1A (N.H 1A), with main contents as below:

1. **Construction location:** The Can Tho Bridge Construction Project passing over Hau river of Vinh Long and Can Tho Provinces, 3.2 km from existing ferry to downstream.

2. **The scope of project:** including Can Tho Bridge, approach road from beginning to end point of project route connected to N.H 1A (The beginning point of project route at Km 2061 on N.H 1A of Binh Minh District, Vinh Long Province; The end point of project route at Km 2077 on N.H 1A of Chau Thanh District, Can Tho Province).

   The total length of project route is approx.: 15.35 km, including:

   - Can Tho Bridge (main bridge and approach bridge) : 2.72 km
   - Approach road : 12.63 km

3. Scale of Construction and Design Criteria:

a) Design Criteria:

- Design Specification: In accordance with existing Viet Nam Standard and AASHTO, referring to standards of other countries.

- Design velocity 80km/h for bridge and highway, at intersection and sections passing over dense inhabitant area, the design velocity are permitted 60km/h.

- The gradient of main bridge, approach road and bridge: Maximum Imax = 4.5%.

- Design frequency: P = 1%.

- Navigational Clearance: 30m x 300m and 39m x 110m.

b) **The scale and construction structure solution.**

- Can Tho Bridge: Permanent bridge, the length of main bridge is approx. 1,090m, the length of approach bridge is approx. 1,630m (including bridge passing over sub-stream of Can Tho side), the width of bridge: 24.90m including: 4 lanes for vehicle x 3.50m; 2 lanes for pedestrian x 2.75m; Separation bands and safety bands.

- The approach road: Cross section width of 24.1m including: 4 lanes for vehicle; 2 lanes for non-motorize; 2 grass shoulders; 2 safety bands + median separation band.

- Constructing 18 bridges on approach road to main bridge, the width of bridge is similar to highway.

- Structure Solution:

  + Main Structure: Stayed Cable Bridge, Hybrid Steel and Pre-stressed Concrete, RC Open Caisson.

  + Approach bridge structure: PC Girder, RC Pile Foundation

  + Pavement structure: Flexible Pavement to ensure Design Load.

  + Bridges on the approach road to bridge: PC Girder, RC pier abutment, RC pile.

+ 4 intersections consist of:

- Interchange with N.H 1A of Vinh Long is a half of Y type (with overpass Tra Da canal) and suitable to connect to express way Ho Chi Minh City – Can Tho in the future.

- Interchange with N.H 54 of Vinh Long, Diamond type having overpass.

- Interchange with N.H 91 and 91b (stretching) at Cai Cui of Can Tho side, Diamond Type having overpass (with connected section from Quang Trung Bridge to the center of Can Tho City, Hung Phu Industrial Zone and Cai Cui port).

- At grade Intersection with N.H 1A at Cai Rang of Can Tho side, Trumpet type. It guarantees methods of merging lane, diverging lane and the suitable length of cornering lane.

+ Constructions on route: Design collected road and underpass, service box culvert in dense residential area along route.

+ Toll gate: constructing 01 toll gate in accordance with semi-automatic type.

4. The Need of Investment Capital and Capital Resource:

The need of investment capital about 295 millions USD, equivalent to 4,100 billions VND (calculated on exchange rate 1USD = 13,900 VND or 1 Yen = 140VND). The total investment is defined after design and approval of total cost estimate.

Capital resource: loan capital from JBIC and correspond capital from Viet Nam State Budget.

5. Project Implementation Organization

- Investor: Ministry of Transport

- The Representative of Investor: My Thuan Projects Management Unit of Ministry of Transport.

- Implemented schedule: construction: 2001 and completion: 2005

6. **Project Implementation Method:**

   - Detailed design consultant and making tender document: made by aid capital without reimburse of Japanese Government and assigned by Japan.

   - Supervision consultant and construction contractor: international competition tender.

ARTICLE 2: Task Assignment

1. **Assigning to Ministry of Transport:**

   - Decision of technical options in detailed design stage based on studying the comments of State Proof Check Board in Document No. 44/TDNN dated 14th April 1999 and Document No. 105/TDNN dated 30 December 1999; agreement with the People's Committee of Can Tho and Vinh Long Provinces about detailed technical plan (specially intersection) for selecting suitable plan, economical capital and high investment results.

   - Defining the investment total after the approval of detailed design and suitable to real price, other costs in accordance with stipulations and regime of State, considering proof check and submitting to Prime Minister for approval.

   - Coordinating with Ministry of Defense to define navigational clearance, treatment methods of tower pier and problems concerning defense in local, but it must complete promptly for keeping on schedule of project.

   - Coordinating with the People's Committee of Vinh Long and Can Tho Provinces and relevant Ministries, Department to steer compensation work of Land Acquisition & Resettlement.

   - Steering implementation of project on schedule.

2. The People's Committee of Vinh Long and Can Tho Provinces have responsibility of implementing Land Acquisition Work for guarantee on schedule, making convenient condition for implementing project.

3. Ministry of Planning and Investment, Ministry of Finance, Ministry of Construction, Viet Nam State Bank and Relevant Departments implement and coordinate with Ministry of Transport in negotiation stage of capital loan

and implementing project in accordance with existing regulations of State, international code and undertaking of loan and paying a debt.

ARTICLE 3: Ministers of Ministries, Chiefs of Organizations equal to Ministry, Chiefs of Government Organizations, Chairman of People's Committee of Vinh Long Province, Chairman of People's Committee of Can Tho Province have responsibility of implementing this decision.

PRIME MINISTER

PHAN VAN KHAI

C.C:

- Standing Politic Ministry
- Prime Minister and Vice Prime Minister
- Ministries: Ministry of Transport, Ministry of Construction, Ministry of Planning and Investment, Ministry of Foreign Affair, Ministry of Defense, Ministry of Police, Ministry of Environment and Science Technology Ministry of Agriculture and Rural Development.
- Viet Nam State Bank.
- Nation Assemble Office
- Central Party Office.
- State Proof Check Board of Investment Project.
- Land Management General Bureau.
- State Treasury.
- The People's Committee of Vinh Long Province
- The People's Committee of Can Tho Province
- My Thuan Projects Management Unit.
- Official Gazette.
- Government Office: BTCN, PCN,QHQT,KTTH,NC,NN,DPI,DPII,TH,
- File: CN (3b), VT.

CHÍNH PHỦ

Số : 61/QĐ-TTg

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

T.90

Hà Nội, ngày 17 tháng 01 năm 2000

QUYẾT ĐỊNH CỦA THỦ TƯỚNG CHÍNH PHỦ
Về việc phê duyệt đầu tư dự án xây dựng cầu Cần Thơ trên quốc lộ 1A

THỦ TƯỚNG CHÍNH PHỦ

Căn cứ Luật Tổ chức Chính phủ ngày 30 tháng 9 năm 1992;

Xét đề nghị của Bộ Giao thông vận tải (tờ trình số 64/TT/GTVT-KHĐT ngày 07 tháng 01 năm 1999, số 3431/TT/GTVT-KHĐT ngày 04 tháng 10 năm 1999 và số 4284/TT/GTVT-KHĐT ngày 23 tháng 11 năm 1999) và ý kiến của Hội đồng thẩm định Nhà nước về các dự án đầu tư (công văn số 44/TĐNN ngày 14 tháng 4 năm 1999 và số 105/TĐNN ngày 30 tháng 12 năm 1999),

QUYẾT ĐỊNH :

Điều 1. Đầu tư dự án xây dựng cầu Cần Thơ trên quốc lộ 1A với những nội dung chủ yếu như sau :

1. Vị trí xây dựng : cầu bắc qua sông Hậu thuộc địa phận tỉnh Vĩnh Long và tỉnh Cần Thơ, cách bến phà hiện tại khoảng 3,2 km về phía hạ lưu.

2. Phạm vi dự án : bao gồm cầu Cần Thơ, đường dẫn hai đầu cầu nối với quốc lộ 1A (điểm đầu tuyến tại vị trí khoảng Km 2061 trên quốc lộ 1A thuộc địa phận huyện Bình Minh, tỉnh Vĩnh Long; điểm cuối tuyến tại vị trí khoảng Km 2077 trên quốc lộ 1A thuộc địa phận huyện Châu Thành, tỉnh Cần Thơ).

Chiều dài toàn bộ tuyến dự án khoảng 15,35 km, gồm :

- Cầu Cần Thơ (cầu chính và cầu dẫn) khoảng 2.720 m.

- Đường dẫn vào cầu khoảng 12,63 km.

3. Quy mô công trình, tiêu chuẩn thiết kế :

a) Tiêu chuẩn thiết kế :

- Quy trình và tiêu chuẩn thiết kế : chủ yếu áp dụng theo quy trình, quy phạm Việt Nam và AASHTO (Hoa Kỳ), có tham khảo của các nước tiên tiến khác.

- Tốc độ thiết kế chung cho cả cầu và đường 80 km/h; các đoạn qua khu dân cư và các nút giao, thiết kế với tốc độ hạn chế 60 km/h.

- Độ dốc dọc cầu chính, cầu dẫn và đường dẫn : Tối đa I_{max} = 4,5%.

- Tần suất thiết kế : P = 1%.

- Tĩnh không thông thuyền : 30m × 300m và 39m × 110m.

b) Quy mô và giải pháp kết cấu công trình :

- Phần cầu Cần Thơ :

Cầu vĩnh cửu. Khổ cầu : rộng 24,90 m bố trí cho 4 làn xe ôtô × 3,50m = 14m, 2 lề bộ hành × 2,75m = 5,5m, các dải ngăn cách và kiến trúc an toàn rộng 5,4m.

+ Cầu chính : dài khoảng 1.090m, sử dụng kết cấu dây văng, mặt cầu hỗn hợp dầm thép và bê tông cốt thép dự ứng lực (BTCTDUL), móng giếng chìm mở bằng bê tông cốt thép (BTCT).

+ Cầu dẫn : dài khoảng 1.630m, dùng dầm BTCTDUL, móng cọc bằng BTCT.

- Đường dẫn vào cầu :

+ Đường dẫn vào cầu : mặt cắt ngang rộng 24,1m gồm 4 làn xe ô tô x 3,5m, 2 làn xe thô sơ, 1 dải ngăn cách giữa, 2 dải an toàn, 2 lề trồng cỏ. Áp dụng kết cấu dạng mặt đường mềm bảo đảm tải trọng thiết kế.

+ Các cầu trên đường dẫn : xây dựng với quy mô vừa và nhỏ, khổ cầu tương đương khổ đường. Kết cấu : dùng dầm BTCTDUL, mố trụ bằng BTCT trên nền cọc BTCT.

+ Các nút giao chủ yếu gồm :

. Nút giao với quốc lộ 1A phía Vĩnh Long dạng nút giao nửa chữ Y với nửa nút giao khác mức (có cầu vượt qua kênh Trà Đá, bố trí cho phù hợp với việc nối tuyến đường cao tốc thành phố Hồ Chí Minh - Cần Thơ sau này).

. Nút giao khác mức với quốc lộ 54 phía Vĩnh Long, kiểu hình thoi có cầu vượt.

. Nút giao khác mức với quốc lộ 91 và 91B (kéo dài) tại Cái Cui phía Cần Thơ, kiểu hình thoi có cầu vượt (có bố trí đường nhánh nối với cầu Quang Trung để vào trung tâm thành phố Cần Thơ; cùng đường nhánh nối khu công nghiệp Hưng Phú, cảng Cái Cui sau này).

. Nút giao bằng với quốc lộ 1A tại Cái Răng phía Cần Thơ, kiểu kèn Trumpet đảm bảo nguyên tắc tách nhập làn và chiều dài trộn dòng phù hợp.

+ Tại khu dân cư tập trung dọc tuyến thiết kế đường gom và các cầu chui, cống hộp dân sinh.

+ Trạm thu phí : xây dựng 1 trạm thu phí hoàn chỉnh với hình thức thu bán tự động.

4. Nhu cầu vốn đầu tư và nguồn vốn :

- Nhu cầu vốn đầu tư khoảng 295 triệu USD, tương đương khoảng 4.100 tỷ đồng (tính theo tỷ giá 1USD = 13.900 đồng). Tổng mức đầu tư được xác định sau khi có thiết kế và tổng dự toán được duyệt.

- Nguồn vốn : vốn vay từ Ngân hàng Hợp tác quốc tế Nhật Bản (JBIC) và vốn đối ứng từ ngân sách Nhà nước Việt Nam.

5. Tổ chức thực hiện :

- Chủ đầu tư : Bộ Giao thông vận tải.

- Đại diện chủ đầu tư : Ban Quản lý dự án Mỹ Thuận - Bộ Giao thông vận tải.

- Tiến độ thực hiện : khởi công năm 2001, hoàn thành năm 2005.

6. Phương thức thực hiện dự án :

- Tư vấn thiết kế kỹ thuật và lập hồ sơ đấu thầu : thực hiện bằng vốn viện trợ không hoàn lại của Chính phủ Nhật Bản, do phía Nhật Bản chỉ định.

- Tư vấn giám sát và nhà thầu thi công : đấu thầu cạnh tranh quốc tế.

Điều 2. Phân giao nhiệm vụ

1. Giao Bộ trưởng Bộ Giao thông vận tải :

- Quyết định phương án kỹ thuật trong quá trình thiết kế kỹ thuật trên cơ sở nghiên cứu những điểm lưu ý của Hội đồng thẩm định Nhà nước đã nêu tại văn bản số 44/TĐNN ngày 14 tháng 4 năm 1999 và văn bản số 105/TĐNN ngày 30 tháng 12 năm 1999; thống nhất với Ủy ban nhân dân hai tỉnh Cần Thơ và Vĩnh Long về các phương án kỹ thuật cụ thể, nhất là các nút giao, để đảm bảo lựa chọn phương án hợp lý, sử dụng vốn tiết kiệm và nâng cao hiệu quả đầu tư.

- Xác định tổng mức đầu tư theo thiết kế được duyệt phù hợp với mặt bằng giá thực tế, các chi phí khác theo quy định, chế độ Nhà nước, thông qua thẩm định theo quy định hiện hành trình Thủ tướng Chính phủ xem xét, phê duyệt làm cơ sở lập kế hoạch đấu thầu.

- Phối hợp với Bộ Quốc phòng xác định về tĩnh không, biện pháp xử lý về tháp cột cầu cùng những vấn đề liên quan đến quốc phòng trong khu vực dự án, nhưng phải khẩn trương để đảm bảo tiến độ dự án.

- Phối hợp với Ủy ban nhân dân hai tỉnh Vĩnh Long và Cần Thơ và các Bộ, ngành có liên quan chỉ đạo công tác đền bù giải phóng mặt bằng và tái định cư.

- Chỉ đạo triển khai thực hiện dự án đúng theo quy định hiện hành.

2. Ủy ban nhân dân hai tỉnh Vĩnh Long và Cần Thơ chịu trách nhiệm thực hiện công tác giải phóng mặt bằng bảo đảm tiến độ của dự án và tạo điều kiện thuận lợi để triển khai dự án.

3. Bộ Kế hoạch và Đầu tư, Bộ Tài chính, Bộ Xây dựng, Ngân hàng Nhà nước Việt Nam và các ngành có liên quan thực hiện theo chức năng và phối hợp với Bộ Giao thông vận tải trong quá trình đàm phán vay vốn và triển khai thực hiện dự án theo đúng quy định hiện hành của Nhà nước, thông lệ quốc tế và đúng cam kết về vay, trả nợ.

Điều 3. Bộ trưởng các Bộ, Thủ trưởng cơ quan ngang Bộ, Thủ trưởng cơ quan thuộc Chính phủ, các ngành có liên quan, Chủ tịch Ủy ban nhân dân tỉnh Vĩnh Long và Chủ tịch Ủy ban nhân dân tỉnh Cần Thơ chịu trách nhiệm thi hành Quyết định này ./.

THỦ TƯỚNG CHÍNH PHỦ

Phan Văn Khải

Nơi nhận :
- Thường vụ Bộ Chính trị,
- Thủ tướng và các Phó Thủ tướng,
- Văn phòng Quốc hội,
- Văn phòng Trung ương Đảng,
- Các Bộ : Giao thông vận tải, Xây dựng, Tài chính, Kế hoạch và Đầu tư, Ngoại giao, Quốc phòng, Công an, Khoa học, Công nghệ và Môi trường, Nông nghiệp và Phát triển nông thôn,
- Hội đồng TĐNN về các dự án đầu tư,
- Ngân hàng Nhà nước Việt Nam,
- Tổng cục Địa chính,
- Quỹ hỗ trợ phát triển,
- UBND tỉnh Vĩnh Long,
- UBND tỉnh Cần Thơ,
- Ban Quản lý dự án Mỹ Thuận,
- Công báo,
- VPCP : BTCN, các PCN, các Vụ : QHQT, KTTH, NC, NN, ĐP1, ĐP2, TH, TTTT&BC,
- Lưu : CN (3b), VT.

1.9 Comments of MOT on the Draft Final Report of Can Tho Bridge construction (No. 2149/GTVT/CGD), 6 July 2000

BỘ GIAO THÔNG VẬN TẢI
CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
MINISTRY OF TRANSPORT
SOCIALIST REPUBLIC OF VIETNAM

80 Trần Hưng Đạo
Hà Nội - Việt Nam

Tel : 84-4 8252079
Fax : 84-4 8267291

Hanoi, 6 July 2000

No.: 2149 / GTVT/CGĐ
Re: Comments of MOT on the Draft Final Report of Can Tho Bridge construction

To: Japanese International Cooperation Agency (JICA)

After receiving the "Draft Final Report on the Technical Design of the Can Tho Bridge Construction Report" prepared by Nippon Koei Co., Ltd. dated 15 June 2000, the Ministry of Transportation (MOT) held a meeting to discuss the technical design of the Can Tho bridge.

Based on the various evaluation reports, the MOT would like to have the following comments:

I. General issues:

The JICA Study Team is requested to:

1. To explain the reason why the seismic coefficient k = 0.12 (equal to the earthquake grade of 7.5) is selected for calculation, while according to regulations of Vietnam provided in the official document 22TCVN 221-95, the earthquake grade in the Vinh Long and Can Tho area is only 6.
2. To explain and compare the designed live load of the span with the load HS 20-44 (increase by 25%) according to ASSHTO standard.
3. To review the safety coefficient to be used more suitably with the conditions of Vietnam in order to reduce the project costs.
4. To explain about the selection of temprature gradient and its effects in calculating the span structure and construction technology.

II. Design of Main Bridge

In order to further clarify issues concerning the selection of main bridge structure, the JICA Study Team is requested to make the following explanations on:

1. Basis for the selection of cable stayed span structure with steel box girder of 210m placing at the middle of the main span and the technical treatment measure for the joint between the steel and concrete girders.
2. Considering the increase of the pylon height from 165m to 175m. Will this cause any effect to the aviation safety or not? Opinions of competent bodies should be needed.
3. Reason for selecting river bed elevation at the southern pylon equal to the scour level at the Cai Von river mouth which is over 2km upstream from the bridge location (this selection will subsequently cause the free length of the hollow piles with the diameter of 3m increase by 11.8m).
4. Northern pylon to the Vinh Long ward being constructed on land will be free from ship collision force. Why its foundation is designed with the same structure of the southern pylon?
5. Reason for the modification in pylon foundation structure compared with the initial proposal (type of hollow pile, number of piles etc.).

III. Design of the approach viaduct: following considerations are required to

1. To review the span arrangement of the approach viaduct in accordance with the shipping clearance for viaduct in order to reduce length of the bridge span and height of the embankment on the weak soil foundation. It is also necessary to reconsider the placement of pile cap in much high depth (up to 18m in some places) as this cause difficulty in construction.
2. To review the selection of cross section type and structural height of the girder. It is proposed to reduce the structural height of the girder so that the embankment can be reduced.
3. To review the pile quantity. In some cases, driven pile and hollow pile should be used instead of bored pile.
4. To study the possible arrangement of skew bridge at the bridge centerline skewing with the road centerline.

IV. Design of embankment to protect the northern pylon

It is requested to compare in more detail the option of using the concrete slabs to protect the northern pylon.

V. Design of the approach road

1. JICA study team is also requested to explain about the designed embankment level to 7m in the weak soil foundation.
2. To justify the appropriate use of interval distance among the underpass and their height for the purpose of adjusting and reducing the bridge longitudinal profile.
3. To explain the application scope of the sand piles and wick drains at the geotechnical condition of the project area (whenever possible, the reduction in depth of the wick drain need to be reconsidered).

4. To re-examine the suitable elevation of the sand filter layer above the wick drain in order to ensure the continuous drainage during the subsidence process.

VI. Total cost estimate: JICA study team is also requested

1. To clarify the breakdown of each work item (Quantity and unit price) and separate the cost estimate for the additional work volume outside the approved F/S.
2. To provide soon the technical control and Quality Management Bureau with the cost breakdown of the project.

VII. Schedule

While JICA peruse the above-mentioned comments, the Vietnamese side will continue to study the document and calculation sheets received on 21 June 2000 from JICA and will send its final comments on 15 July 2000. Then the JICA Study Team is requested to submit the reply by 25 July 2000. JICA is expected to dispatch the study team to Vietnam for next assignment at the end of July or beginning of August 2000. Specific date will be decided later.

Above are the initial comments of MOT. After the JICA Study Team forward complete calculated data to the Vietnamese side for finalizing the appraisal work, MOT will send further comments.

MOT wish to receive soon the reply from JICA on the above issues.

FOR MINISTER OF MOT
VICE MINISTER

Nguyen Viet Tien

cc
- Minister of Transport: Mr. Le Ngoc Hoan (to report)
- Vice Ministers:
  + Mr. Phan Quang Tuyen
  + Mr. Nguyen Tan Man
  + Mr. Nguyen Viet Tien
- Department of Planning and Investment
- Department of Science and Technology
- Department of Int'l Relationship
- My Thuan PMU
- TEDI South
- Consulting and Appraisal Agencies
- Nippon Koei Co., Ltd.
- File

1.10 Meeting for Appraisal of Technology Design of Can Tho Bridge (No.2352/GTVT/CGD), 19 July 2000

Ministry of Transport **Socialist Republic of Vietnam**

No. 2352/GTVT-CGD

Hanoi, July 19, 2000

Re: Meeting for appraisal of technology design of Can Tho bridge

To: Japan International Cooperation Agency

In response to the Circular No. 2149/GTVT-CGD dated July 6, 2000 by the Ministry of Transport on meeting for approval of Can Tho bridge, Ministry of Transport has honour to request JICA to dispatch a study team to Hanoi from August 1 to 4, 2000 on appraisal of final technology design report of Can Tho bridge. The agenda for meeting is attached at next page. We look forward to hearing your confirmation of the aforesaid agenda.

We have the honour to remain.

For Minister of Transport
Vice Minister

(Signed and sealed)
Nguyen Viet Tien

C.C.
- Do
- Minister Le Ngoc Hoan (for report)
- Investment Planning, International Cooperation, Technology and Science
- Control Management Bureau
- My Thuan PMU
- TEDI, TEDE.S, Construction University
- File: Office, Control Management Bureau

DRAFT

AGENDA OF APPRAISAL MEETING FOR CAN THO BETWEEN MOT AND JICA

(Appendix attached to Circular No. 2352/GTVT dated July 19, 2000)

	Date	Agenda	Venue	Participant	Organizer
1	August 1, 2000	A.M.: 08:00 –11:30 Applying technology design standards of Can Tho bridge P.M.: 13:30~16:30 Discussion	Technology Science Dept. Technology Science Dept.	Departments of Technology Science, Planning and Investment, Control Management Bureau, PMU My Thuan, Technology Science Council, Appraisal Consultant, Design Consultant, Global Physic Institute	Technology Science Dept. Technology Science Dept.
2	August 2, 2000	A.M.:08:00~11:30 Design Consultant gives initial explanations by Appraisal Consultant to Control Management Bureau, PMU My Thuan, Departments of Technology and Science, Planning and Investment, Appraisal Consultant P.M.: 13:30~16:30 Design Consultant explains questions by	Control Management Bureau Control Management Bureau	Control Management Bureau, PMU My Thuan, Departments of Technology and Science, Planning and Investment, Appraisal Consultant -Do-	Control Management Bureau -Do-

		Appraisal Consultant at the second phase to Control Management Bureau, PMU My Thuan, Departments of Technology and Science, Planning and Investment, Appraisal Consultant			
3	August 3, 2000	Nippon Koei Co., Ltd. prepares reports (sending reports to relevant bodies in advance)	JICA Nippon Koei Co., Ltd.		JICA
4	August 4, 2000	A.M. 08:00~11:30 Nippon Koei Co., Ltd. reports technology design of Can Tho	P.2 Building C		MOT