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## 1. 調査団員・氏名

## ➤ 第一次現地調査時

氏 名	担 当	所 属
安田 智幸	総括	JICA 経済基盤開発部平和構築・都市・地域開発グループ 平和構築・都市・地域開発第一課長
ファンレビン	計画管理	JICA 経済基盤開発部平和構築・都市・地域開発グループ平和構築・都市・地域開発第一課 主任調査役
早川 知邦	施工計画/積算/調達2 (橋梁計画/設計)	日本工営株式会社

## ➤ 第二次現地調査時

氏 名	担 当	所 属
宮崎 桂	総括	JICA 経済基盤開発部次長兼平和構築・都市・地域開発グループ長
ファンレビン	計画管理	JICA 経済基盤開発部平和構築・都市・地域開発グループ平和構築・都市・地域開発第一課 主任調査役
吉田 剛	道路橋梁計画	日本工営株式会社
早川 知邦	施工計画/積算/調達2 (橋梁計画/設計)	日本工営株式会社
上山 浩明	施工計画/積算/調達3	日本工営株式会社

## ➤ 報告書案説明時

氏 名	担 当	所 属
安田 智幸	総括	JICA 経済基盤開発部平和構築・都市・地域開発グループ 平和構築・都市・地域開発第一課長
ファンレビン	計画管理	JICA 経済基盤開発部平和構築・都市・地域開発グループ平和構築・都市・地域開発第一課 主任調査役
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上山 浩明	施工計画/積算/調達3	日本工営株式会社

## ➤ 環境社会配慮調査時

氏 名	担 当	所 属
奥澤 信二郎	環境社会配慮	株式会社アルメック VPI

## 2. 調査行程

## ➤ 第一次現地調査時

日付		総括 安田 智幸	計画管理 ファンレビン	施工計画/積算/調達2 早川 知邦
7-Oct-13	Mon	移動 東京-ヤンゴン		
8-Oct-13	Tue	協議 (JICAミャンマー、大使館)		
		現地調査(Thaketa Bridge, Thanlyn bridge, Thilawa SEZ, others)		
9-Oct-13	Wed	移動 ヤンゴン-ネピドー		
		スコープに関するMM協議		
		移動 ネピドー-ヤンゴン		
10-Oct-13	Thu	合同協議 (Yangon Region、PW) MD協議 (PW)		
		現地調査、書類整理		
11-Oct-13	Fri	MD署名		
		JICAミャンマー報告		
		大使館報告		
		移動 ヤンゴン-バンコク		
12-Oct-13	Sat	移動 バンコク-東京		

## ➤ 第二次現地調査時

日付		総括 宮崎 桂	計画管理 ファンレビン	道路橋梁計画 吉田 剛	施工計画/積算/調達3 上山 浩明
4-Mar-14	Tue	移動 東京-ヤンゴン			
5-Mar-14	Wed	協議(JICAミャンマー、大使館)		現地調査	
		移動 ヤンゴン-ネピドー			
7-Mar-14	Thu	MM協議			
		移動 ネピドー-ヤンゴン-東京			
8-Mar-14	Fri	帰国			

## ➤ 報告書案説明時

日付		総括 安田 智幸	計画管理 ファンレビン	施工計画/積算/調達2 早川 知邦	道路橋梁計画 吉田 剛	施工計画/積算/調達3 上山 浩明
6-Apr-14	Sun			移動 東京-ヤンゴン		
7-Apr-14	Mon		移動 東京-ヤンゴン	移動 ヤンゴン-ネピドー		
				報告書案説明(PW)		
8-Apr-14	Tue	移動 東京-ヤンゴン		報告書案説明(PW)		
		団内協議		報告書案説明(PW)		
9-Apr-14	Wed	移動 ヤンゴン-ネピドー		報告書案説明(PW)		
		MDおよび報告書案協議 (PW)				
		MOC大臣表敬、MD協議および署名 移動 ネピドー-ヤンゴン			技術協議(PW)	
10-Apr-14	Thu	協議 (Yangon Region Transport Minister/YCDC)			技術協議(PW)	
		大使館報告	移動 ヤンゴン-ハノイ		技術協議(PW)	
		移動 ヤンゴン-東京		移動 ネピドー-ヤンゴン-東京		
11-Apr-14	Fri	帰国		帰国		

## 3. 関係者リスト

1.	建設省(MOC)	
	Mr. Kyaw Lwin	H. E Minister
	Dr. Win Myint	Deputy H.E Minister
2.	建設省公共事業局 (PW)	
	Mr. Kyaw Linn	Managing Director
	Mr. Win Pe	Deputy Managing Director
	Mr. Win Tint	Deputy Managing Director
	Mr. Han Soe	Deputy Managing Director
	Mr. Kywe Wa	General Manager (Finance)
	Mr. Khin Maung Swe	Chief Engineer (Bridge)
	Mr. Shwe Lay	Chief Engineer (Bridge)
	Mr. Khin Maung Kyaw	Chief Engineer (Road)
	Mr. Aung Myat Oo	Chief Engineer (Bridge)
	Mr. Myint Thein	Deputy Chief Engineer (Electrical Department)
	Mr. Kyi Hlaing Win	Superintendent Engineer (Electrical Department)
	Daw Khin Than Win	Superintendent Engineer
	Daw Saw Saw Sein	Superintendent Engineer (Bridge)
	Daw Hla Hla Thwe	Superintendent Engineer (Road)
	Mr. Soe Min	Superintendent Engineer (Special Project Unit - 5)
	Mr. Zaw Win Myint	Superintendent Engineer (Bridge)
	Mr. Kyi Hlaing Win	Superintendent Engineer (Electrical Department)
	Daw Thein Nu	Deputy Superintendent Engineer
	Daw Than Yi	Deputy Superintendent Engineer (Bridge)
	Mr. Saw Alferd	Executive Engineer (Electricity Workshop)
	Mr. Htay Aung	Executive Engineer (Special Project Unit - 5)
	Daw May Thant Zin	Executive Engineer Eastern Part (Yangon Region)
	Mr. Kyaw Kaung Cho	Executive Engineer (Bridge)
	Mr. Nyi Nyi Zaw	Executive Engineer (Bridge)
	DaewEi Ei Myo	Executive Engineer (Road)
	Mr. Thet Zaw Win	Executive Engineer (Road)
3	ミャンマー港湾公社 (Myanmar Port Authority)	
	Mr. Ni Aung	Master Attendant
4	ミャンマー鉄道公社 (Myanmar Railways)	
	Mr. Tin Win	Deputy General Manager (Civil)
5	環境保全森林省 環境保全局(Environmental Conservation, MOECAP)	
	Dr. San Oo	Director
6	電力省 (Ministry of Electrical Power)	
	Mr. Khin Maung Thwin	Deputy Director
7	ヤンゴン市開発委員会(Road and Bridge, YCDC)	
	Mr. Nyan Thar	Assistant Head of Department
8	在ミャンマー日本大使館 (Embassy of Japan)	
	松尾秀明(Hideaki Matsuo)	参事官(Counsellor)
	中矢 剛( Go Nakaya)	二等書記官(Second Secretary)
	渡部 俊宏 (Toshihiro Watanabe)	二等書記官(Second Secretary)
9	JICA ミャンマー事務所	
	田中 雅彦(Masahiko Tanaka)	所長(Chief Representative)
	三條 明仁(Akihito Sanjo)	次長(Senior Representative)
	森川 真樹(Maki Morikawa)	企画調整員(Project Formulation Advisor)
	Mr. Khin Maung	所員(JICA Advisor)
	Mr. Win Ko Ko	所員(Program Assistant)

4. 討議議事録 (M/D)

4-1 現地調査(M/D) 2013年10月09日

**MINUTES OF DISCUSSIONS  
ON  
THE PREPARATORY SURVEY  
ON  
THE PROJECT FOR CONSTRUCTION OF NEW THAKETA BRIDGE  
IN THE REPUBLIC OF THE UNION OF MYANMAR**

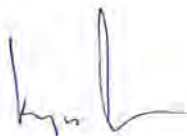
Based on the Minutes of Meetings agreed on June 25, 2013, between the Public Works (herein after referred to as PW) and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA study team is implementing the Feasibility Study (herein after referred to as "F/S) for "the Project for Construction of New Thaketa Bridge" (herein after referred to as "the Project").

As a result of discussion with relevant organizations in Myanmar, JICA, in consultation with the Government of Japan, decided to rename the F/S to "Preparatory Survey on the Project for Construction of New Thaketa Bridge".

JICA dispatched to Myanmar the Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Mr. YASUDA Tomoyuki, Director of Peace Building and Urban and Regional Development Division 1, Economic Infrastructure Department, JICA. The Team schedule to stay in the country from October 7<sup>th</sup> to October 11<sup>th</sup>, 2013. During the period, the Team held discussions with the officials concerned in the Government of Myanmar and conducted a field survey in the study area.

In the course of discussions and field survey, both sides confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Nay Pyi Taw, October 9, 2013



U Kyaw Linn  
Managing Director,  
Public Works,  
Ministry of Construction



Mr. Yasuda Tomoyuki  
Director,  
Peace Building and Urban and Regional  
Development Division 1,  
Economic Infrastructure Department,  
Japan International Cooperation Agency

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to improve efficiency of transportation in Yangon City through elimination of a bottle neck by replacing the existing Thaketa bridge into a new Thaketa bridge.

### 2. Project Site

The site of the Project is proposed to locate nearby the existing Thaketa bridge, connecting Mingalar Taung Nyunt township and Dawpon township, crossing over Pazundaung creek in Yangon city as shown in Annex 1.

### 3. Responsible and Implementing Organization

The Responsible and implementing organization for the Project is Public Works (PW), Ministry of Construction. The organization chart PW is shown in Annex 2.

### 4. Project Components

4-1. Both sides confirmed the components of the Project as follows:

Construction of new Thaketa bridges. Approach roads to the new Thaketa bridges will be constructed under responsible of the MOC.

4-2. Based on preliminary results of the F/S, JICA proposed and PW agreed that to ensure smooth implementation of the Project, the Project should be divided into two phases, as showed in Annex 3:

(1) Phase 1: construction of a new two lane bridge, which will be connected to existing approach roads.

(2) Phase 2: re-construction of existing Thaketa bridge by a new two lanes bridge.

4-3. Myanmar side explained that land clearance for phase 1 will be committed by January 2014.

4-4. JICA side explained that phase 2 only can be considered by the Government of Japan (herein after referred to as "GOJ") if Myanmar side can firmly ensure construction of four lanes approach roads.

4-5. PW will be responsible in coordinating with Yangon City Development Committee (herein after referred to as "YCDC") and Yangon Region Government to implement land clearance for the Project.

4-6. JICA will assess necessity, relevance and degree of urgency of the components of the Project through the Preparatory Survey and will report the findings to GOJ. Implementation and components of the Project will be decided by GOJ.

### 5. Japan's Grant Aid Scheme

5-1. Myanmar side understood the Japan's Grant Aid Scheme explained by the Team, as described in Annex 4.

5-2. Myanmar side will take the necessary measures, as described in Annex 5, for smooth implementation of the Project.



## 6. Schedule of the Study

6-1. JICA Survey Team will continue the Preparatory Survey, prepare the draft report in English and explain its contents around December, 2013.

6-2. JICA will finalize the final report and send it to the Government of Myanmar around March, 2014.

## 7. Official request from the Myanmar side

7-1. The Japanese side explained procedures and application form necessary for official request for the Project to the Japanese government.

7-2. The PW acknowledged that the official request of the Project must be submitted to the Japanese Government, and agreed to follow up the procedure within Myanmar government.

7-3. The official request will be sent out from the PW by the end of October, 2013 and the PW will follow up such that it will reach Japanese side (To: Embassy of Japan in Myanmar, CC: JICA Myanmar Office) by 1st week of December, 2013.

## 8. Environmental and Social Consideration

8-1. JICA side emphasized and Myanmar side agreed that procedure for environmental and social considerations (i.e. Initial Environmental Examination, EIA, land acquisition and resettlement, etc.) has to comply with the environmental regulations of Myanmar and "JICA Guidelines for Environmental and Social Considerations" (April 2010).

8-2. Myanmar side explained that the Environmental Law was promulgated on April 1, 2012 by Ministry of Environmental Conservation and Forestry. Related regulations/circulars which define actual implementation procedure and standards do not exist in Myanmar yet.

## 9. Other relevant issues

9-1. Myanmar side agreed to make necessary arrangements for construction of the Project, such as budget and personnel which are not cover by Grant Aid budget and the both sides confirmed that necessary information for approximate estimation of construction cost would be provided by Myanmar side and the Survey Team would present its result in the draft final report.

9-2. Both sides confirmed that current government buildings and workshops shall be relocated by Myanmar side with its own expense.

9-3. PW shall take necessary measures applied to the Project, to grant privileges, exemptions and benefits to the members of the Preparatory Study, which are no less favorable than those granted to experts and members of the missions of third countries or international organizations performing similar missions in the Republic of the Union of Myanmar.

9-4. Myanmar side requested that structure of the new bridges should apply advanced technology, e.g. PC Extradosed, and environmental impact should be considered during replacement of existing Thaketa bridge. The Survey Team noted the request for further consideration.

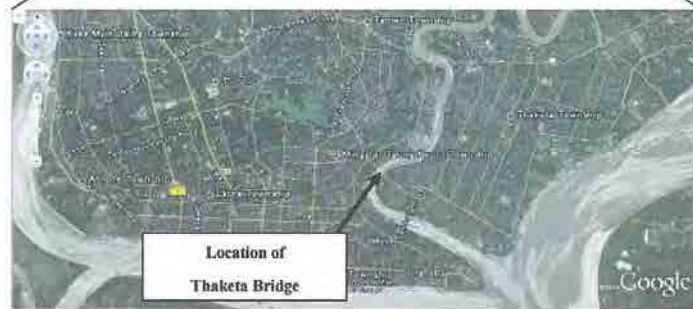
Annex 1	Project Site
Annex 2	Organization chart of Public Works
Annex 3	Scope of the Project



Annex 4	Japan's Grant Aid
Annex 5	Major Undertakings to be taken by Each Government

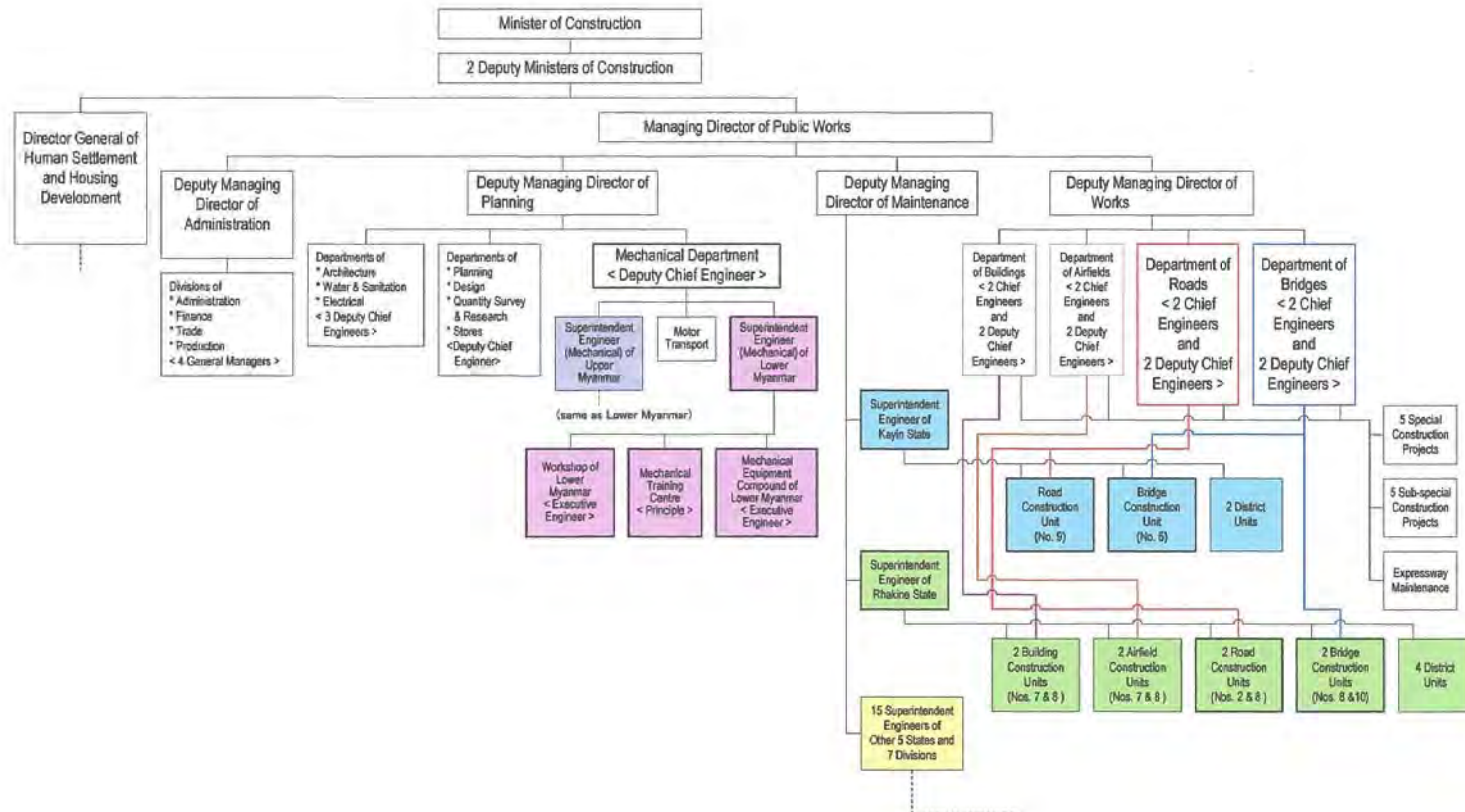
Annex I

Project Site



Project site

# Organization chart of Public Works



Annex 2

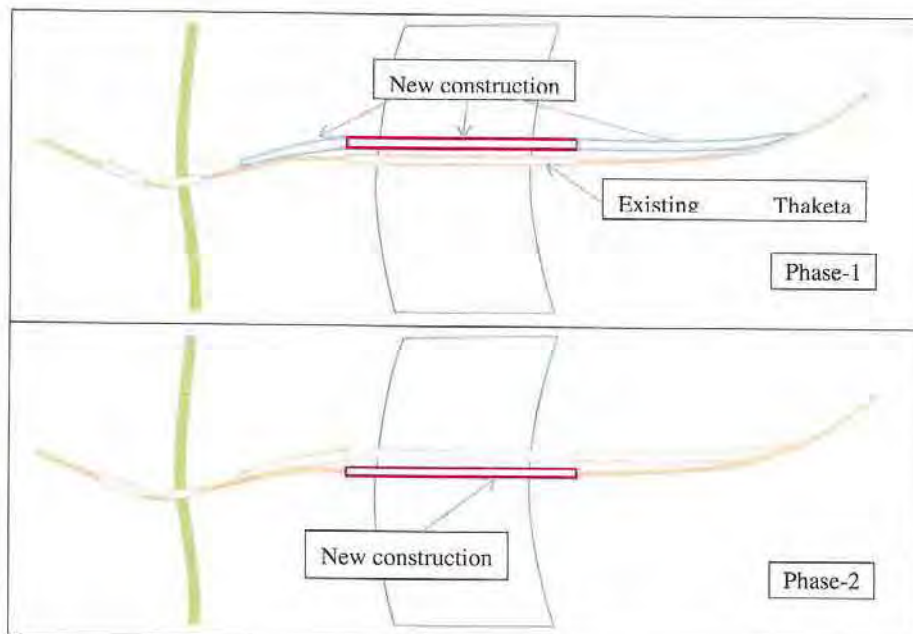
## SCOPE OF THE PROJECT

### Step by step construction

#### 1. Phase-1

Construction of New 2-lane Thaketa Bridge nearby the existing Thaketa Bridge

2. Phase-2 (after commitment on construction of 4 lanes approach roads by PW)  
Replacement of existing Thaketa bridge.



## Annex 4

## JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

### 1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

- Preparatory Survey
  - The Survey conducted by JICA
- Appraisal & Approval
  - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
  - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
  - Agreement concluded between JICA and a recipient country
- Implementation
  - Implementation of the Project on the basis of the G/A

### 2. Preparatory Survey

#### (1) Contents of the Survey

The aim of the Preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the



recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

### 3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and the G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex 4.

(6) "Proper Use"

The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

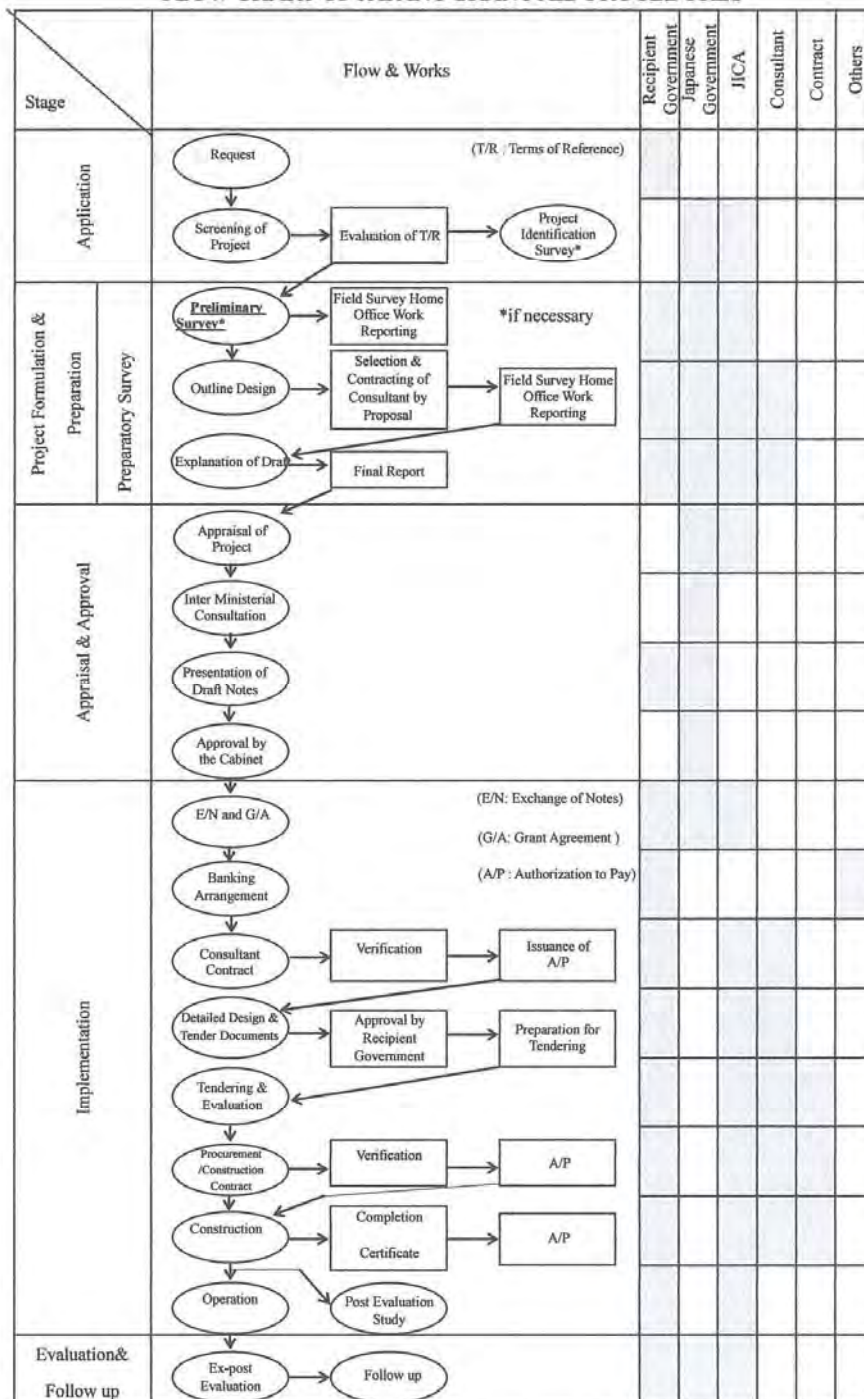
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA guidelines for environmental and social considerations.



FLOW CHART OF JAPAN's GRANT AID PROCEDURES



## Annex 5

## Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site (delivery point)	●	
2	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be borne by the Authority without using the Grant		●
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To ensure that the products be maintained and used properly and effectively for the implementation of the Project		●
5	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
6	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●

(B/A : Banking Arrangement, A/P : Authorization to pay)

4-2 現地調査 (M/M) 2014 年 03 月 06 日

**MINUTES OF MEETING  
ON  
THE PREPARATORY SURVEY  
ON  
THE PROJECT FOR CONSTRUCTION OF NEW THAKETA BRIDGE  
IN THE REPUBLIC OF THE UNION OF MYANMAR**

Based on the Minutes of Meetings agreed on June 25, 2013, between the Public Works (herein after referred to as PW) and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA study team is implementing the Feasibility Study (herein after referred to as "F/S") for "the Project for Construction of New Thaketa Bridge" (herein after referred to as "the Project").

As a result of discussion with relevant organizations in Myanmar, JICA, in consultation with the Government of Japan, decided to rename the F/S to "Preparatory Survey on the Project for Construction of New Thaketa Bridge" (herein after referred to as "Preparatory Survey").


From October 7<sup>th</sup> to October 11<sup>th</sup>, 2013, JICA dispatched to Myanmar the Preparatory Survey Team, headed by Mr. YASUDA Tomoyuki, Director of Peace Building and Urban and Regional Development Division 1, Economic Infrastructure Department, JICA. After discussions, The Preparatory Survey Team and Myanmar side confirmed key factors of the Projects as described in the Minute of Discussions signed in October 9<sup>th</sup>, 2013.

From March 5<sup>th</sup>, 2014 to March 7<sup>th</sup>, 2014, JICA dispatched to Myanmar the second Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Ms. MIYAZAKI Katsura, Deputy Director General, Economic Infrastructure Department, JICA. During the period, The Team held discussions with the officials concerned in the Government of Myanmar on results of the Preparatory Survey.

In the course of discussions, both sides agreed to revise "Project components" and "Schedule of the Study" as described in attachment. The Team will proceed to further works and prepare the Preparatory Survey Report.

Nay Pyi Taw, March 6, 2014

  
U Kyaw Linn  
Managing Director,  
Public Works,  
Ministry of Construction

  
Ms. Miyazaki Katsura  
Deputy Director General,  
Economic Infrastructure Department,  
Japan International Cooperation Agency

## ATTACHMENT

### 1. Project Components

1-1. Both sides agreed to share the role in the Project as described below:

<Japanese side (JICA)>

- Construction of a new four-lane bridge

<Myanmar side (MOC)>

- Construction of four-lane approach roads to the new bridge
- Removal of existing Thaketa bridge. But Myanmar side will need technical assistance for the removal such that not to give negative impacts to river environment, to surrounding area and the new bridge.

Details of above mentioned components are showed in Annex.

1-2. Response to the request from Myanmar side, JICA agreed to provide planning and designing for the whole project at master plan level.

1-3. Myanmar side requested OJT and lecture type training at the time of construction of the new Thaketa bridge.

1-4. JICA side explained that land clearance need to be committed by Myanmar side at the occasion of the discussion on the draft report of the Study in April of 2014.

1-5. JICA will assess necessity, relevance and degree of urgency of the components of the Project through the Preparatory Survey and will report the findings to GOJ. Implementation and components of the Project will be decided by GOJ.

### 2. Schedule of the Study

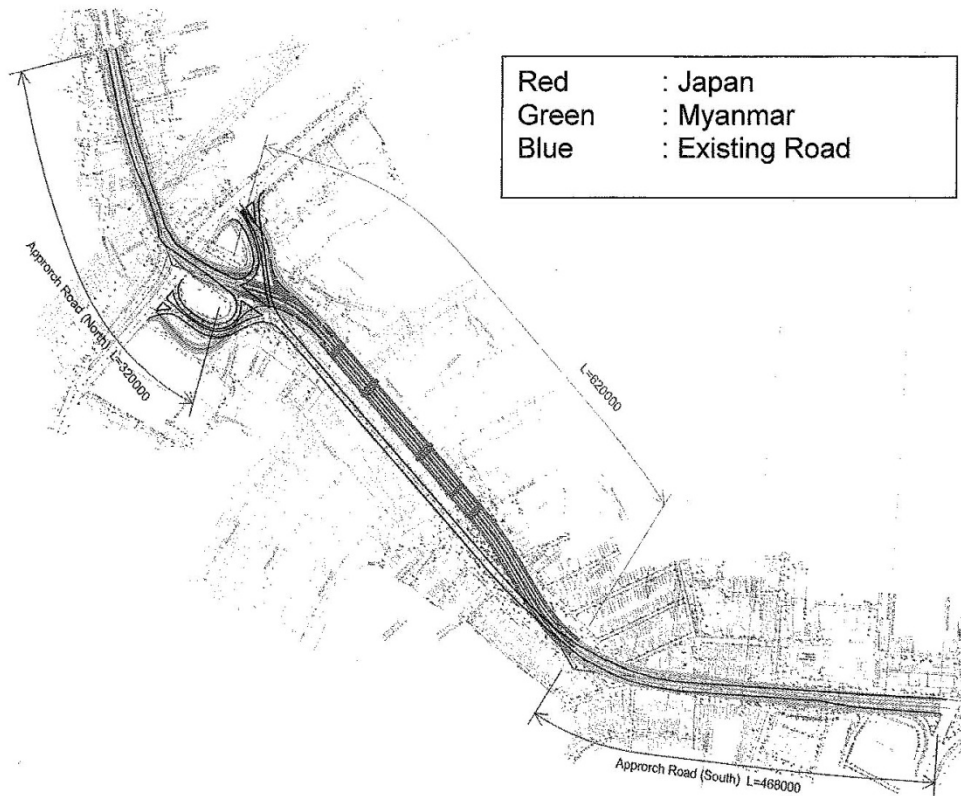
2-1. JICA Survey Team will continue the Preparatory Survey, prepare the draft report in English and explain its contents around the beginning of April, 2014.

2-2. JICA will finalize the final report and send it to the Government of Myanmar around July, 2014.

END.

Annex      Scope of the Project

Annex



## 3. 技術協議記録 (T/N)

*Preparatory Survey on the Project for Construction of New Thaketa Bridge*

Date & Time		March 6, 2014 1:30 pm
Visit Details	Organization	Public Works
	Participants	See Attendance List
	Venue	Public Works (Head Office)
Participants from JICA and Project Team		See Attendance List
Main Topics	Technical Notes to be confirmed	
Result of Discussion	The technical conditions listed below were confirmed and agreed.	
Documents	Presentation Handout	
	Drawings	

## Technical Notes to be confirmed for Design of New Thaketa Bridge and Approach Roads

## 1. Design Conditions

## (1) Main Carriageway

## (i) Horizontal Geometry

Design Speed: 50 km/h

Horizontal Radius: Minimum 100m

Horizontal Relaxation Curve: Minimum 40m

## (ii) Longitudinal Geometry

Longitudinal Slope: Maximum 6%

Longitudinal Radius: Minimum 1200m/1000m (1/100)

Longitudinal Curve: Maximum 40m

## (2) Ramps at Interchange

Design Speed: 30 km/h

Horizontal Radius: Minimum 25m

Horizontal Curve: Minimum 50m (including Relaxation Curve)

## (3) Cross Section

Number of Lanes: 4 (four)

Width of Carriageway: 3.5m

Number of Walkways: 2 (two) on the both sides.

Width of Walkway: 2.0m

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*Preparatory Survey on the Project for Construction of New Thaketa Bridge*

(2) Navigation Clearance (requested by MPA)

(i) Horizontal Navigation Clearance: Center Span Length = 100m

(ii) Vertical Navigation Clearance:

At least the same as the existing Thaketa Bridge (10.6m at the crest)

2. Bridge Type

(1) Superstructure

Main Bridge: PC 3-span Continuous Extradosed Type

South End Span: PC Box Girder Type

(2) Foundation

P1 & P2: Steel Pipe Sheet Pile Foundation

A1, P3 and A2: Cast In-situ Concrete Pile Foundation

A1.

3. Major Components of Scope of Works

Following components of the scope of works were confirmed by referring to the Drawing, Plan View (1/3); Road.

(1) New Thaketa Bridge and Access Road: L = 620m

(i) New Thaketa Bridge: L=253m

(ii) Access Road (North): L = 165m

(iii) Access Road (South): L = 202m

(iv) Off Ramp East: L = 199m

(v) On Ramp West-1: L = 149m

(2) Approach Road (North) L = 320m

(i) Main Carriageway: L= 320m

(ii) On Ramp East: L=189m

(iii) On Ramp West-2: L= 118m

(iv) Off Ramp West: L=305m

(v) Floyover (Railway Over Bridge): L=40m (Tentative)

(vi) Floyover (Bridge over Upper Pazundaung Rd): L=34m (Tentative)

(3) Approach Road (South) L = 469m

4. Vertical Alignment of the Project

Vertical Alignment of the Project was confirmed by referring to the Drawings,

General View.(1/3), (2/3) and (3/3)

5. Clearance for Bridge over Upper Pazundaung Rd: ~~5.48m~~ 5.20m

Taken Confirmed

2/2

Confirmed by:

Public Works

*[Signature]*  
Aung Myint Aye  
... ..

JICA STUDY TEAM  
... ..

*[Signature]*  
T. Yoshida



### Technical Meeting

### Attendance List

6.3.2014

[illegible]

4-4 概要説明(M/D) 2014年04月09日


**MINUTES OF DISCUSSIONS  
ON  
THE PREPARATORY SURVEY  
ON  
THE PROJECT FOR CONSTRUCTION OF NEW THAKETA BRIDGE  
IN THE REPUBLIC OF THE UNION OF MYANMAR  
(Explanation on Draft Final Report)**

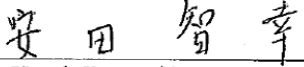
In July 2013, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on the Project for Construction of New Thaketa Bridge (hereinafter referred to as "the Project") to the Republic of the Union of Myanmar (hereinafter referred to as "Myanmar"). Through discussions, field survey and technical examination of the results in Japan, JICA prepared a Draft Final Report of the survey.

In order to explain and to consult with the concerned officials of the Government of Myanmar (hereinafter referred to as "the Myanmar side") on the contents of the Draft Final Report, JICA sent to Myanmar the Explanation Team of Draft Final Report (hereinafter referred to as "the Team"), which is headed by Mr. Tomoyuki YASUDA, Director of Peace Building and Urban and Regional Development Division 1, Economic Infrastructure Department, JICA, from April 6 to April 11, 2014.

As a result of discussions, both sides confirmed the main items described in the attachment.

Nay Pyi Taw, April 9, 2014

  
\_\_\_\_\_  
U Han Soe  
Deputy Managing Director,  
Public Works,  
Ministry of Construction

  
\_\_\_\_\_  
Mr. Yasuda Tomoyuki  
Director,  
Peace Building and Urban and Regional  
Development Division 1,  
Economic Infrastructure Department,  
Japan International Cooperation Agency

## ATTACHMENT

### 1. Contents of the Draft Final Report

The Myanmar side agreed and accepted in principle the contents of the Draft Final Report of the Preparatory Survey and draft specification of the New Thaketa Bridge explained by the Team.

Both sides reconfirmed role sharing in the Project as described in the Minutes of Meeting signed on March 6, 2014.

### 2. Japan's Grant Aid Scheme

The Myanmar side reconfirmed the Japan's Grant Aid scheme and the necessary measures to be taken by each government are explained by the Team described in Annex 1.

### 3. Schedule of the Study

JICA will complete the Final Report in English and send it to the Myanmar side through JICA Myanmar Office by end of June, 2014.

### 4. Project Cost

The Myanmar side understood that the Project Cost Estimation attached in Annex 2 is not final and is subject to change by the result of examination through revision of the Outline Design in the stage of Detail Design.

The Myanmar side was also informed that the Project cost should not exceed the upper limit of the amount agreed in the Exchange of Notes (E/N) and the Grant Agreement (G/A).

### 5. Confidentiality of the Project

Both sides agreed that, in order to secure a fair and equitable procurement, the Project Cost Estimation in Annex 2 should never be duplicated or released to any third parties before conclusion of all the contract(s) for the Project.

### 6. Environmental and Social Considerations

(1) Necessary land lots for the construction of the New Thaketa Bridge are shown in Annex 3.



(2) The Myanmar side agreed that completion of clearance of necessary land lots for the construction of the New Thaketa Bridge and relocation of all affected utilities at Myanmar's own expense, is a condition to proceeding to the bidding process for construction, planned in November, 2014.

(3) Myanmar side confirmed that land acquisition procedure shall comply with the "Policy on structures removal and resettlement for the Project", described in Chapter 2 of the Draft Final Report. Remarkable points as follows:

1) The Public Works (PW) shall set up an implementation team for preparation of Abbreviated Resettlement Plan (ARP) and for land acquisition and resettlement to be implemented in accordance with ARP.

2) The PW shall issue notification of "Land usage by the Project" as soon as after the signature of this Minutes of Discussions.

3) The PW shall complete the ARP by end of May 2014.

(4) Both sides agreed on the contents of environmental checklist as shown in Annex 4.

(5) Both sides agreed to monitor the procedures in accordance with the monitoring forms shown in Annex 5.

(6) The Myanmar side confirmed that the result of environmental monitoring will be provided to JICA as a part of Monthly Progress Report by filling in the monitoring form attached as Annex 5 on a quarterly basis until the completion of the project.

## **7. Maintenance of the Project Structures**

The Team explained the necessary cost for the maintenance of the structure as shown in Chapter 5 of the Draft Final Report. The Myanmar side confirmed that the cost will be secured in the annual budget.

## **8. Other Relevant Issues**

(1) The Myanmar side shall complete the expansion of approach roads by its own expenses or with external assistance by the time of completion of the New Thaketa Bridge, planned in February 2018, in order to make the most benefit of the Project.

In order to secure consistence between approach roads and the New Thaketa Bridge, the construction of approach roads will follow outline figures provided in the Final Report.

(2) After completion of the New Thaketa Bridge, the Myanmar side shall commence the removal of existing Thaketa Bridge by its own expenses or with external assistance.

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In the stage of Detail Design of the New Thaketa Bridge, the Japan side shall provide reference information regarding technologies to be applied in removing existing bridge so as not to give negative impacts to river environment, to surrounding area and to the New Thaketa Bridge.

- (3) Based on request from the Myanmar side, to assist the Myanmar side to enhance its construction and maintenance capacity for new bridge type, Japanese consultant shall provide technical knowledge related to new technologies, e.g. extradosed bridge and steel sheet pile foundation, in the soft component of the project.

<List of Annex>

- |         |   |
|---------|---|
| Annex 1 | Major Undertakings to be taken by each Government |
| Annex 2 | Project Cost Estimation (Confidential)            |
| Annex 3 | Necessary land lots for the construction          |
| Annex 4 | Environmental Check List                          |
| Annex 5 | Monitoring Form                                   |



## Annex 1

## Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure lots of land necessary for the implementation of the Project and to clear the sites.		●
2	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites referred to in No.1 above;		●
3	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist domestic transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Domestic transportation from the port of disembarkation to the project site	●	
4	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted		●
5	To accord Japanese nationals and/or nationals of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
6	To ensure that the facilities be maintained and used properly and effectively for the implementation of the Project		●
7	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
8	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To give due environmental and social consideration in the implementation of the Project		●

(B/A : Banking Arrangement, A/P : Authorization to pay)

## Annex 2

## Project Cost Estimation (Confidential)

- (1) Project Cost to be Borne by Japan's Grant Aid  
Approximately 4,175 Million Japanese Yen

Components	Amount (Million Japanese Yen)
Civil Works Construction of New Thaketa Bridge and Access Roads	3,943
Detailed Design and Construction Supervision	232
Total	4,175

Note: JPY 4,174.7 Million is equivalent to USD 41.7 Million at the exchange rate 1 USD=99.93 JPY.

- (2) Initial Cost to be Borne by Myanmar Side  
Approximately 212 Thousand USD

(Unit: USD)

Items	Amount (USD)
(1) Countermeasure for Residence	1,000
(2) Countermeasure/Compensation	41,000
(3) Environmental Monitoring	75,000
(4) Relocation of Public Facilities	30,000
(5) Bank Fee, Remittance Commission	40,000
(6) Custom Clearance Fee and Storehouse Fee	8,000
(7) Electricity	7,000
(8) Navigation Marking and Lighting	10,000
Total	212,000

Note: provisional cost estimation for the portion to be borne by the Myanmar side as follows:

(Unit: USD)

Items	Amount (USD)
(1) Expansion of Approach Roads (north/south)	5,020,000
(2) Removal of Existing Thaketa Bridge	982,000
Total	6,002,000

- (3) Condition of Cost Estimation

- Point in Estimation: October 2013
- Exchange Rate: 1.00US dollar =99.93JPY (Average from 1<sup>st</sup> July 2013 to 30<sup>th</sup> September 2013)
- Other: The cost estimation for Japan's Grant Aid are provisional and will be further examined by the Government of Japan.



