ANNEX 4: R/D, M/M, Minutes of JCC (copy)

R/D	15th February, 2015
Revised R/D	8th October, 2015
1st JCC	30th August, 2015
2nd JCC	28th January, 2016
3rd JCC	5th March, 2017
4th JCC	3rd December, 2017
5th JCC	29th August, 2018

Name of WS	Date	Name of WS	Date
A1-WS1	5th November, 2015	A2-WS5	13th March, 2016
A1-WS2	10th January, 2016	A2-WS6	10th April, 2016
A1-WS3	17th January, 2016	A2-WS7	10th April, 2016
A1-WS4	17th January, 2016	A2-WS8	22th May, 2016
A1-WS5	4h February, 2016	A2-WS9	22th May, 2016
A1-WS6	27th March, 2016	A2-WS10	19th Jun, 2016
A1-WS7	10th April, 2016	A2-WS11	19th Jun, 2016
A1-WS8	10th April, 2016	A3-WS1	4h February, 2016
A2-WS1	13th December, 2015	A3-WS2	27th March, 2016
A2-WS2	13th December, 2015	A3-WS3	29th March, 2016
A2-WS3	10th January, 2016	A3-WS4	29th January, 2017
A2-WS4	13th March, 2016		

RECORD OF DISCUSSIONS

ON

BRIDGE MANAGEMENT CAPACITY DEVELOPMENT PROJECT

IN

PEOPLE'S REPUBLIC OF BANGLADESH

AGREED UPON BETWEEN

ROADS AND HIGHWAYS DEPARTMENT

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Dhaka
February 15, 2015

Kei TOYAMA
Senior Representative
Japan International Cooperation Agency

M.A.N. Siddique
Secretary
Road Transport and Highways Division
Ministry of Road Transport and Bridges

Mohammed Abu Taher
Additional Secretary
Wing-1, Economic Relations Division
Ministry of Finance

Md. Feroz Iqbal
Chief Engineer
Roads and Highways Department

Based on the minutes of meetings on the Detailed Planning Survey on the "Bridge Management Capacity Development Project" (hereinafter referred to as "the Project") signed on June 12, 2014 between Roads and Highways Department (hereinafter referred to as "RHD") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with RHD and relevant organizations to develop a detailed plan of the Project.

Both parties agreed the details of the Project and the main points discussed as described in the Appendix 1 and the Appendix 2 respectively.

Both parties also agreed that RHD, the counterpart to JICA, will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of People's Republic of Bangladesh recipient country (hereinafter referred to as "Bangladesh").

The Project will be implemented within the framework of the Agreement on Technical Cooperation signed on December 8th, 2002 (hereinafter referred to as "the Agreement") and the Note Verbales to be exchanged between the Government of Japan (hereinafter referred to as "GOJ") and the Government of People's Republic of Bangladesh (hereinafter referred to as "GOB").

The effectiveness of the record of discussions is subject to the exchange of the Note Verbales.

Appendix 1: Project Description
Appendix 2: Main Points Discussed
Appendix 3: Minutes of Meetings on the detailed planning survey for the Project signed on June 12, 2014

Appendix 1

PROJECT DESCRIPTION

Both parties confirmed that there is no change in the Project Description agreed on in the minutes of meetings on the concerning Preparatory Survey on the Project signed on June 12, 2014 (Appendix 3).

I. BACKGROUND

Bangladesh has experienced a firm economic growth in recent years maintaining the annual GDP growth rate of about 6 percent. Along with that, freight volume has increased by approximately 8 times in the 30 years between 1975 and 2005, and the freight volume and the number of passengers has maintained an upward trend at a pace of 6-7 percent. Among the major means of transportation in Bangladesh such as inland waterway, railway and road, the rate relying on road use in both passenger and freight has exceeded 80 percent in 2005. However, newly road construction is not adequately implemented against an increase of the traffic volume, and condition of existing road is deteriorating due to incompetent capacity on roads/bridges maintenance and budgetary deficit. These obstacles are hindering smooth transportation of passenger and freight.

According to the "Sixth Five Year Plan (2011-2015)", GOB defines that efficient and modern road transportation system plays an important role in the road sector for achieving "Sixth Five Year Plan" and "Vision 2021" which is the mid-term aim of Bangladesh. Furthermore, appropriate maintenance on existing roads is placed as an important issue in order to reduce costs for road users. "National Land Transport Policy (2004)" describes that enhancing maintenance capacity, securing budgets and formulating a long-term development plan are prioritized as an important policy. "Road Master Plan (2009)" formulated based on the "National Land Transport Policy" mentions that maintaining asset value of roads and bridges is one of the aims to be focused.

Construction of bridges in Bangladesh has been accelerated drastically after its independence in 1971, and the number of bridges and culverts increased from 1,112 to 18,356 in 2013. Meanwhile, the rapid increase of bridges has caused frequent falls of baily bridges (emergency bridges) and road condition has seriously deteriorated due to inadequate maintenance. Though GOB is aware of the necessity of the capacity development on bridge management, it is yet to be implemented. This results in bridges falls before the arrival of the end of their durable years.

Under above background, GOB requested GOJ to implement "Technical Cooperation for Bridge Management and Maintenance System under Roads and Highways Department" with aiming to introduce preventive bridge maintenance utilizing the bridge management system. In response to this

request, JICA determined to transfer the technology in order to facilitate the bridge maintenance cycle and held series of discussion with RHD and related authorities concerned of Bangladesh. Based on the agreements between JICA and the authorities concerned of Bangladesh, the Minutes of Meetings was signed on June 12, 2014, which leads both parties to conclude this Record of Discussions.

II. OUTLINE OF THE PROJECT

Details of the Project are described in the Logical Framework (Project Design Matrix: PDM) (Annex 1) and the tentative Plan of Operation (PO) (Annex 2).

1. Input

(1) Input by RHD

RHD will take necessary measures to provide at its own expense:

(a) Services of RHD's counterpart personnel and administrative personnel as referred to in II-2;
(b) Suitable office space with necessary equipment;
(c) Supply or replacement of equipment and any other materials necessary for the implementation of the Project to be borne by RHD as described in PDM, if necessary;
(d) Information as well as convenience for receiving medical care;
(e) Credentials or identification cards;
(f) Available data (including maps and photographs) and information related to the Project;
(g) Expenses necessary for transportation within Bangladesh of the equipment referred to in PDM, if arise; and
(h) Necessary facilities to the JICA experts for the remittance as well as utilization of the funds introduced into Bangladesh from Japan in connection with the implementation of the Project

2. Implementation Structure

The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:

(1) RHD

(a) Project Director
Additional Chief Engineer, Bridge Management Wing will be responsible for overall administration and implementation of the Project.

(b) Additional Project Director
Superintendent Engineer, Planning & Data Circle will be responsible for administration of the Project.

(c) Project Manager
Executive Engineer, BMMS Division will be responsible for the implementation of the Project

(d) Deputy Project Manager
Sub-Divisional Engineer, BMMS Division will be responsible for deputy to the Project Manager

(e) Counterparts
Relevant officers in RHD will be responsible for the managerial and technical matters of the Project.

(2) JICA Experts
The JICA experts will give necessary technical guidance, advice and recommendations to RHD on any matters pertaining to the implementation of the Project.

(3) Joint Coordination Committee
Joint Coordination Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC meeting will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct evaluation of the Project, and exchange opinions on major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

3. Project Site(s) and Beneficiaries
(1) Project Site
The main activities of the Project will be implemented at RHD's headquarters.

(2) Direct beneficiaries
Direct beneficiaries of the Project will be the staff of RHD.

(3) Indirect beneficiaries
Indirect beneficiaries are road users.

4. Duration
The duration of the Project will be thirty (30) months from the commencement. The tentative Plan of Operation is shown in Annex 2.

5. Reports
At the commencement of the Project, JICA will prepare and submit the Inception Report including the Monitoring Sheet ver. 1 based on PDM and PO to RHD in English.

In addition, RHD and JICA experts will jointly prepare the following reports in English.
(1) The Monitoring Sheets based on PDM and PO on semiannual basis until the project completion
(2) Project Completion Report at the time of completion.

6. Environmental and Social Considerations
RHD agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. UNDERTAKINGS OF RHD and GOB

1. RHD and GOB will take necessary measures to:

   (1) ensure that the technologies and knowledge acquired by Bangladesh nationals as a result of Japanese technical cooperation contributes to the economic and social development of Bangladesh, and that the knowledge and experience acquired by the personnel of Bangladesh from technical training as well as the equipment provided by JICA will be utilized effectively in the implementation of the Project; and

   (2) grant privileges, exemptions and benefits to the JICA experts referred to in PDM and their families, which are no less favorable than those granted to experts and members of the missions and their families of third countries or international organizations performing similar missions in Bangladesh.

   (3) provide tax exemption for construction materials and equipment for the Project.
   (a) The Bangladesh side agreed that customs duties, internal taxes and other fiscal levies which may be imposed in Bangladesh are exempted under mutual agreement of the Agreement on Technical Cooperation signed on December 8th, 2002 between GOB and GOJ.
   (b) If any expenses stated above are caused by some reasons such as the delay of execution of tax exemption, the Bangladesh side shall pay for it.

2. Other privileges, exemptions and benefits will be provided in accordance with the Agreement on Technical Cooperation signed on December 8th, 2002 between GOB and GOJ and/or the Note Verbales to be exchanged between GOB and GOJ.

IV. MONITORING AND EVALUATION

JICA and the RHD will jointly and regularly monitor the progress of the Project through the Monitoring Sheets based on PDM and PO. The Monitoring Sheets shall be reviewed every six (6) months.
Also, Project Completion Report shall be drawn up one (1) month before the termination of the Project.

JICA will conduct the following evaluations and surveys to mainly verify sustainability and impact of the Project and draw lessons. RHD is required to provide necessary support for them.

1. Ex-post evaluation three (3) years after the project completion, in principle
2. Follow-up surveys on necessity basis

V. PROMOTION OF PUBLIC SUPPORT

For the purpose of promoting support for the Project, RHD will take appropriate measures to make the Project widely known to the people of Bangladesh.

VI. Misconduct

If JICA receives information related to suspected corrupt or fraudulent practices in the implementation of the Project, RHD and relevant organizations shall provide JICA with such information as JICA may reasonably request, including information related to any concerned official of the government and/or public organizations of the Bangladesh.

RHD and relevant organizations shall not, unfairly or unfavorably treat the person and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

VII. MUTUAL CONSULTATION

JICA and RHD will consult each other whenever any major issues arise in the course of Project implementation.

VIII. AMENDMENTS

The record of discussions may be amended by the minutes of meetings between JICA and RHD.

The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the record of discussions.

Annex 1 Logical Framework (Project Design Matrix:PDM)
Annex 2 Tentative Plan of Operation
Annex 3 Project Organization Chart
Annex 4 A List of Proposed Members of Joint Coordinating Committee

Project Design Matrix

Project Title: Bridge Management Capacity Development Project

Version 0

Implementing Agency: Organizations: Ministry of Communication, Roads and Highways Department (RHD)

Dated ●●,●●,2014

Target Group: Staff in RHD head office and zone offices

Period of Project: XX 2014 – XX 2016, 30 months

Project Site: RHD Head office **Model Site: XX district**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
Bridge management under RHD is enhanced	1. Annual ratio of bridge inspection conducted by RHD is increased from XX% to XX% 2. Bridge maintenance cycle is conducted by RHD	・Record of bridge inspection ・Input-output data of BMS			
Project Purpose					
Bridge maintenance capacity of RHD is improved	1. Bridge maintenance cycle is commenced by RHD 2. Necessary training based on the human resource development plan is conducted by Master Trainers (MTs)	・Record of bridge inspection ・Input-output data of BMS ・Report on training conducted by Master Trainers (MTs)	・Budgets for bridge maintenance are secured ・Staff for bridge management is continuously allocated		
Outputs					
1. Bridge maintenance framework is developed	1-1. Documents of Bridge maintenance procedure and staff deployment are approved by XX 1-2. Bridge inspection based on the bridge maintenance cycle is commenced by RHD 1-3. Data management by utilization of BMS is commenced by RHD 1-4. Bridge maintenance plan (annual budget and work plans) in model area(s) is prepared	・Documents of Bridge maintenance procedure and staff deployment ・Bridge maintenance plan (annual budget and work plans) in model area(s)			
2. Bridge inspection / diagnose manual and bridge rehabilitation / retrofitting manual are developed	2-1. Bridge inspection / diagnosis manual is approved by XX 2-2. Bridge rehabilitation / retrofitting manual is approved by XX	・Bridge inspection / diagnosis manual ・Bridge rehabilitation / retrofitting manual			
3. Bridge management system is developed	3-1. Data accessability of BMS is improved 3-2. BMS manual is approved by XX	・Access log of BMS ・BMS manual			
4. Necessary knowledge of bridge management is enhanced by RHD staff	4-1. XX bridge inspection MTs are trained 4-2. XX bridge rehabilitation MTs are trained 4-3. XX BMS administrators are trained 4-4. The human resource development plan is approved	・Report on training conducted by Experts ・Human resource development plan			

Annex 1

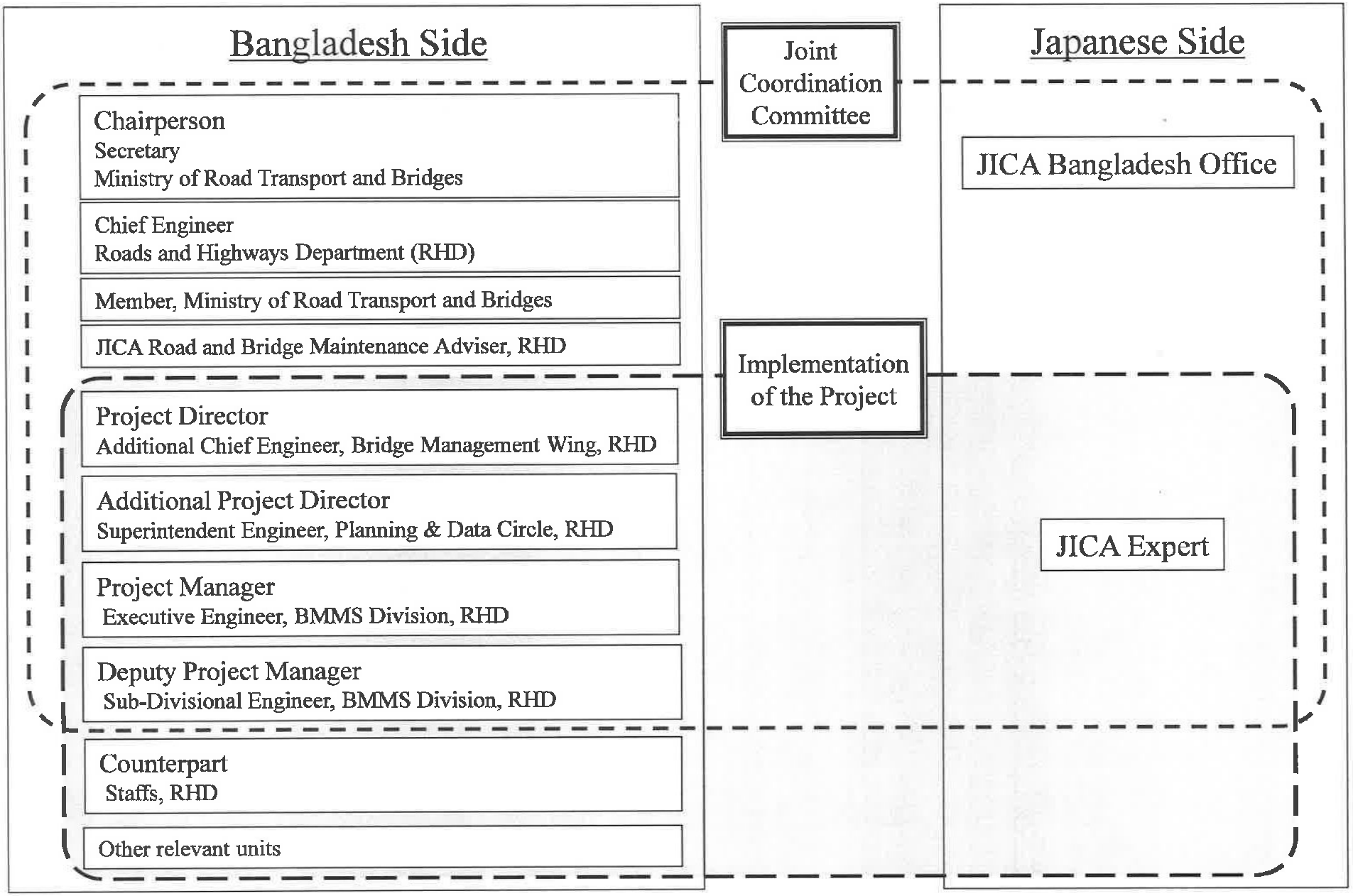
Activities	Inputs		Important Assumption
1-1. Actual condition of bridge maintenance is reviewed 1-2. Problems / issues on bridge maintenance cycle are identified 1-3. Institutional framework of bridge maintenance is reviewed 1-4. Documents of bridge maintenance procedure and standard of staff deployment are prepared 2-1. Existing bridge maintenance manual is reviewed and issues/problems on the manual are analysed 2-2. Bridge inspection / diagnosis manual is updated 2-3. Bridge rehabilitation / retrofitting manual is prepared 2-4. Manuals for Bridge maintenance are explained to RHD staff by Master Trainers (MTs) 3-1. Existing BMMS is reviewed and analysed 3-2. Utilisation of BMS is examined together by RHD 3-3. Function of BMS is defined and developed 3-4. Data in existing BMMS is entered into BMS by RHD 3-5. BMS manual for administrators and users is prepared 3-6. BMS manual is explained to RHD staff by BMS administrators 4-1. On the job trainings (OJTs) on bridge inspection / diagnosis in model area(s) are conducted with bridge inspection / diagnosis manual 4-2. OJTs on prioritizing bridges to be repaired in model area(s) are conducted by utilization of BMS 4-3. OJTs on selection of bridge rehabilitation / retrofitting measures, cost estimation in model area(s) are conducted with Bridge rehabilitation / retrofitting manual 4-4. Advices on supervision of bridge rehabilitation / retrofitting works are given by Expert 4-5. Human resource development plan is prepared	**The Japanese Side** 1. Experts 1) Bridge Maintenance Plan 2) Bridge Inspection 3) Bridge Soundness Evaluation 4) Bridge rehabilitation / retrofitting 5) Bridge Management System 6) Cost Estimation (Bridge Maintenance) 7) Project Coordinator 2. Procurement of machinery and equipment 1) Computers for database with accesories 2) Concrete testing equipment ・Ground penetrating radar (RC Rader) ・Concrete core sampling apparatus ・Electric drill 3. Training in Japan 2 times 4. Expenses 1) Operational expenses for workshop and seminars 2) Other expenses needed for the Project implementation	**The Bangladesh Side** 1. Personnel 1) Project Director 2) Additional Project Director 3) Project Manager 4) Deputy Project Manager 5) Counterpart (C/P) of RHD 6) Other staffs 2. Facility and Equipment 1) Offices (inside RHD building) 3. Expenses for activities 1) Personal and travel expenses and daily allowances for C/P 2) Other necessary costs	・Bridge rehabilitation / retrofitting works for advisory activity (Activity 4-4) are implemented by RHD **Pre-Conditions** ・Skilled and appropriate engineers are allocated in RHD ・Policy priority on bridge maintenance is not drastically decreased **<Issues and countermesures>**

Project Title: Bridge Management Capacity Development Project

Tentative Plan of Operation

	Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Output 1:	Bridge maintenance framework is developed																														
1-1	Actual condition of bridge maintenance is reviewed																														
1-2	Problems / issues on bridge maintenance cycle are identified																														
1-3	Institutional framework of bridge maintenance is reviewed																														
1-4	Documents of bridge maintenance procedure and standard of staff deployment are prepared																														
Output 2:	Bridge inspection / diagnose manual and bridge rehabilitation / retrofitting manual are developed																														
2-1	Existing bridge maintenance manual is reviewed and issues/problems on the manual are analysed																														
2-2	Bridge inspection / diagnosis manual is updated																														
2-3	Bridge rehabilitation / retrofitting manual is prepared																														
2-4	Manuals for Bridge maintenance are explained to RHD staff by Master Trainers (MTs)																														
Output 3:	Bridge management system is developed																														
3-1	Existing BMMS is reviewed and analysed																														
3-2	Utilisation of BMS is examined together by RHD																														
3-3	Function of BMS is defined and developed																														
3-4	Data in existing BMMS are entered into BMS by RHD																														
3-5	BMS manual for administrators and users is prepared																														
3-6	BMS manual is explained to RHD staff by BMS administrators																														
Output 4:	Necessary knowledge of bridge management is enhanced by RHD staff																														
4-1	On the job trainings (OJTs) on bridge inspection/diagnosis in model area(s) are conducted with bridge inspection/diagnosis manual																														
4-2	OJTs on prioritizing bridges to be repaired in model area(s) are conducted by utilization of BMS with BMS manual																														
4-3	OJTs on selection of bridge rehabilitation / retrofitting measures, cost estimation in model area(s) are conducted with Bridge rehabilitation / retrofitting manual																														
4-4	Giving advice on supervision of bridge rehabilitation / retrofitting works implemented by RHD																														
4-5	Human resource development plan is prepared																														
Administrative Activities																															
	Joint Coordination Committee	▲						▲						▲						▲							▲				▲
	Set-up the Detailed Plan of Operation						▲																								
	Project Completion Report																														▲
	Submission of Monitoring Sheet						▲						▲												▲						
	Joint Monitoring																									▲					

Organization chart of the Project



Annex 4

LIST OF PROPOSED MEMBERS OF JOINT COORDINATION COMMITTEE

Chairperson: Secretary, Road Transport and Highways Division, Ministry of Road Transport and Bridges

Members:

(1) Bangladesh Side

1) Roads and Highways Department (RHD)
- Chief Engineer
- Project Director: Additional Chief Engineer, Bridge Management Wing
- Additional Project Director: Superintendent Engineer, Planning & Data Circle
- Project Manager: Executive Engineer, BMMS Division
- Deputy Project Manager: Sub-Divisional Engineer, BMMS Division

2) Ministry of Road Transport and Bridges

3) JICA Road and Bridge Maintenance Adviser

4) Relevant personnel accepted by the Chairperson, if necessary

(2) Japanese Side

1) JICA Bangladesh Office
- Senior Representative
- Representative
- Program Officers in charge of the Project

2) JICA Experts
- Chief adviser / Bridge Maintenance plan
- Bridge Inspection
- Bridge Soundness Evaluation
- Bridge Rehabilitation / retrofitting
- Bridge Management System
- Cost Estimation (Bridge Maintenance)
- Project Coordinator

3) Other personnel accepted by JICA, if necessary

JCC will be scheduled based on the maximum availability of the members listed above.

Appendix 2

MAIN POINTS DISCUSSED

I. PROJECT DESIGN MATRIX (PDM) AND PLAN OF OPERATIONS (PO)

Both sides agreed on the contents of the draft Logical Framework (Project Design Matrix: PDM) and draft Plan of Operations (PO) as shown in Annex-1 and Annex-2 of R/D. The PDM and PO are to be flexibly revised according to the progress and achievement of the Project, upon mutual agreement between RHD and JICA by signing a Minutes of Meetings, according to the R/D.

II. COUNTERPART

Both sides agreed that necessary counterparts of Bridge Management Wing as described in II.2 (1) and Annex-1 (PDM) of the draft R/D shall be assigned and informed JICA (before the signing of R/D).

III. MASTER TRAINERS

Both sides agreed that the target officials of OJTs are "Master Trainers (MTs)" who will act with a role of dissemination of their trained knowledge and skill to other RHD officials widely and the assignment plan of MTs shall be submitted to JICA(before the signing of R/D). In addition the number of MTs are planned to be approximately 75 RHD officials in total.

IV. MODEL AREA

Both sides agreed that Model Area(s) for OJTs will be determined the division(s) of Dhaka zone in the Project and the number of bridges and culverts in the Model Area(s) are approximately 300 in total.

V. TECHNICAL TRANSFER DURING THE PROJECT

Both sides agreed that technical transfer on bridge maintenance cycle will be done at OJT basis.
Workshops / Seminars will be held in Bangladesh.
Approximately 2 weeks Training in Japan will be held twice during the Project with the number of total 12 trainees from RHD.

VI. ON-SITE ACTIVITY

Both sides agreed that the on-site activities such as inspection, rehabilitation work shall be conducted with the full responsibility of RHD while advisory or relevant assistance will be provided by Japanese Experts

VII. BRIDGE REHABILITATION / RETROFITTING WORKS

Both sides agreed that the bridge rehabilitation / retrofitting works (2 or 3 works) for Activity 4-4 in PDM shall be implemented by RHD.

VIII. PROJECT OFFICE

Both sides agreed necessary work space(s) including office equipment (furniture) and basic utilities (electricity, air-conditioning etc.) will be prepared by RHD before commencement of the Project and it will be informed JICA before the signing of R/D.

IX. EQUIPMENT

Both sides agreed that personal equipment for Inspection MT (for example, Safety equipment, Testing hammer, Tape measure / Leveling staff, Crack scale sheet and Camera) are prepared by RHD.

X. TAX OR LEVY

Both sides confirmed that in case any tax or levy is imposed for equipment, RHD will provide the budget equivalent to the amount of the tax or levy for JICA on import.

XI. OTHERS

Japanese side emphasized that RHD should keep their eyes on the capacity building for self-governance and sustainability by securing the bridge maintenance cycle after completing the Project, and Bangladesh side expressed their full understanding.

MINUTES OF MEETINGS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
ROADS AND HIGHWAYS DEPARTMENT
FOR AMENDMENT OF THE RECORD OF DISCUSSIONS
ON
BRIDGE MANAGEMENT CAPACITY DEVELOPMENT PROJECT

The Japan International Cooperation Agency (hereinafter referred to as "JICA") and Roads and Highways Department (hereinafter referred to as "RHD") hereby agree that the Record of Discussions on "Bridge Management Capacity Development Project" (hereinafter referred to as "the Project") signed on February 15, 2015 will be amended as per the attached document;

Dhaka, 29 October 2017

Taku Yamabe
Senior Representative
Japan International Cooperation Agency

M.A.N Siddique
Secretary
Road Transport and Highways Division
Ministry of Road Transport and Bridges

Shahidul Islam
Additional Secretary
Economic Relations Division
Ministry of Finance

Ebne Alam Hassan
Chief Engineer
Roads and Highways Department

Attached Document

1. Duration (Record of Discussions Appendix 1)

Before	Amended Version
The duration of the Project will be thirty (30) months from the commencement. The tentative Plan of Operation is shown in Annex 2.	The duration of the Project will be thirty eight (38) months from the commencement. The tentative Plan of Operation is shown in Annex 2.
Reason: JICA expert team had not been to Dhaka city for about 6 months due to security issues. It is necessary to extend the project duration because it will secure enough activities length of bridge rehabilitation/strengthing and improve bridge maintenance capacity of RHD.	

2. Activity (PDM)

Before	Amended Version
Activity 4-4: Advices on supervision of bridge rehabilitation / strengthening works are given by Expert	Activity 4-4: Advices on remote supervision of bridge rehabilitation / strengthening works are given by Expert
Reason: Under the current contexts, the field activity in Manikganj Road Division will be implemented through remote supervision by the JICA experts.	

Annex 1 : Record of Discussions signed on February 15, 2015

Annex 2 : PDM (Version.5)

Annex 3 : PO (Version.5)

Project Design Matrix (Project Monitoring Sheet I)

Project Title: Bridge Management Capacity Development Project

Implementing Agency: Organizations: Ministry of Road Transport and Bridges, Roads and Highways Department (RHD)

Target Group: Staff in RHD head office and zone offices

Period of Project: 10 July 2015 – 2 September 2018, 38 months

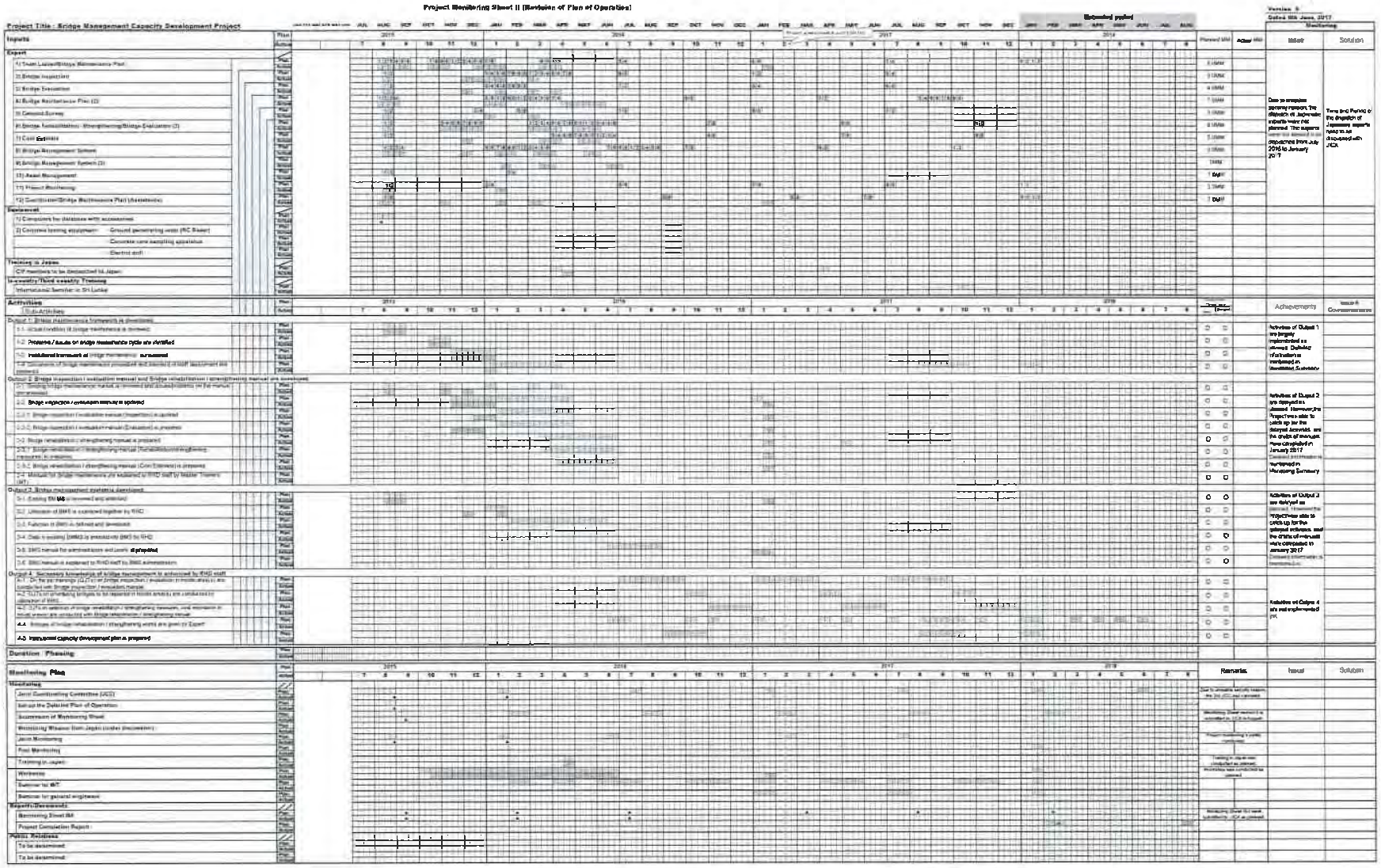
Project Site: RHD Head office　　Model Site: Manikganj Division

Version 5

Dated 8th June, 2017

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Bridge management under RHD is enhanced	1. Annual ratio of bridge inspection conducted by RHD is increased to 60% 2. Bridge maintenance cycle is conducted by RHD	・Record of bridge inspection ・Input-output data of BMS		XX will be replaced with numbers during the 4th JCC.	
Project Purpose Bridge maintenance capacity of RHD is improved	1. Bridge maintenance cycle is commenced by RHD 2. Master Trainers (MTs) are trained 3. Necessary training based on the institutional capacity development plan is conducted by Master Trainers (MT)	・Record of bridge inspection ・Input-output data of BMS ・Report on training conducted by Master Trainers (MT)	・Budgets for bridge maintenance are secured ・Staff for bridge management is continuously allocated	Each indicator will be measured during the 5th JCC (a couple of months before the project completion).	
Outputs 1. Bridge maintenance framework is developed	1-1. Documents of Bridge maintenance procedure and staff deployment are approved by RHD 1-2. Bridge inspection based on the bridge maintenance cycle is commenced by RHD 1-3. Data management by utilization of BMS is commenced by RHD 1-4. Bridge maintenance plan (annual budget and work plans) in model area(s)	・Documents of Bridge maintenance procedure and staff deployment ・Bridge maintenance plan (annual budget and work plans) in model area(s)		Each indicator will be measured during the 4th JCC.	
2. Bridge inspection / evaluation manual and Bridge rehabilitation / strengthening manual) are developed	2-1. Bridge inspection / evaluation manual is approved by RHD 2-2. Bridge rehabilitation / strengthening manual is approved by RHD	・Bridge inspection / evaluation manual ・Bridge rehabilitation / strengthening manual			
3. Bridge management system is developed	3-1. Data accessibility of BMS is improved 3-2. BMS manual is approved by RHD	・Access log of BMS ・BMS manual			
4. Necessary knowledge of bridge management is enhanced by RHD staff	4-1. 75 bridge inspection MT are trained 4-2. 75 bridge rehabilitation MT are trained 4-3. 75 BMS administrators are trained 4-4. Institutional capacity development plan is approved	・Training report ・Institutional capacity development plan			

Activities	Inputs		Important Assumption
	The Japanese Side	The Bangladesh Side	
1-1. Actual condition of bridge maintenance is reviewed 1-2. Problems / issues on bridge maintenance cycle are identified 1-3. Institutional framework of bridge maintenance is reviewed 1-4. Documents of bridge maintenance procedure and standard of staff deployment are prepared 2-1. Existing bridge maintenance manual is reviewed and issues/problems on the manual are analysed 2-2. Bridge inspection / evaluation manual is updated 2-2-1. Bridge inspection / evaluation manual (Inspection) is updated 2-2-2. Bridge inspection / evaluation manual (Evaluation) is prepared 2-3. Bridge rehabilitation / strengthening manual is prepared 2-3-1. Bridge rehabilitation / strengthening manual (Rehabilitation/strengthening measures) is prepared 2-3-2. Bridge rehabilitation / strengthening manual (Cost Estimate) is prepared 2-4. Manuals for Bridge maintenance are explained to RHD staff by Master Trainers (MT) 3-1. Existing BMMS is reviewed and analysed 3-2. Utilisation of BMS is examined together by RHD 3-3. Function of BMS is defined and developed 3-4. Data in existing BMMS is entered into BMS by RHD 3-5. BMS manual for administrators and users is prepared 3-6. BMS manual is explained to RHD staff by BMS administrators 4-1. On the job trainings (OJTs) on bridge inspection / evaluation in model area(s) are conducted with Bridge inspection / evaluation manual 4-2. OJTs on prioritizing bridges to be repaired in model area(s) are conducted by utilization of BMS 4-3. OJTs on selection of bridge rehabilitation / strengthening measures, cost estimation in model area(s) are conducted with Bridge rehabilitation / strengthening manual 4-4. Advices on remote supervision of bridge rehabilitation / strengthening works are given by Expert 4-5. Institutional capacity development plan is prepared	1. Experts 1) Team Leader/Bridge Maintenance Plan 2) Bridge Inspection 3) Bridge Evaluation 4) Bridge Maintenance Plan (2) 5) Detailed Survey 6) Bridge Rehabilitation・Strengthening/Bridge Evaluation (2) 7) Cost Estimate 8) Bridge Management System 9) Asset Management 10) Project Monitoring 11) Coordinator/Bridge Maintenance Plan (Assistance) 2. Procurement of machinery and equipment 1) Computers for database with accessories 2) Concrete testing equipment ・Ground penetrating radar (RC Rader) ・Concrete core sampling apparatus ・Electric drill 3. Training in Japan 2 times 4. Expenses 1) Operational expenses for workshop and seminars 2) Other expenses needed for the Project implementation	1. Personnel 1) Project Director 2) Additional Project Director 3) Project Manager 4) Deputy Project Manager 5) Counterpart (C/P) of RHD 6) Other relevant units 2. Facility and Equipment 1) Offices (inside RHD building) 2) Engineering Equipment/Inspection Equipment 3. Expenses for activities 1) Personal and travel expenses and daily allowances for C/P 2) Other necessary costs	・Bridge rehabilitation / strengthening works for advisory activity (Activity 4-4) are implemented by RHD Pre-Conditions ・Skilled and appropriate engineers are allocated in RHD ・Policy priority on bridge maintenance is not drastically decreased <Issues and countermeasures>


Project Monitoring Sheet II (Revision of Plan of Operation)
Project Title : Bridge Management Capacity Development Project
Version 0
Dated 9th June, 2017
Inputs
Expert
Equipment
Training in Japan
Activities
Duration / Planning
Monitoring Plan
Monitoring
Report/Achievements
Public Relations
Planned M/M
Actual M/M
Issues
Solution
Achievements
Issues & Countermeasures
Remarks

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
সড়ক পরিবহন ও সেতু মন্ত্রণালয়
সড়ক পরিবহন ও মহাসড়ক বিভাগ
কার্যক্রম ও এডিপি শাখা

নং-৩৫.০০.০০০০.০৩২.০১৪.০২৫.১৫-৭৪৯ তারিখঃ ১৫-১২-২০১৫ খ্রিস্টাব্দ

বিষয়ঃ ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট এর উপর অনুষ্ঠিত ১ম জেসিসি সভার আলোকে প্রণীত রেকর্ড নোট অনুমোদন প্রসঙ্গে।

সূত্রঃ অতিরিক্ত প্রধান প্রকৌশলী, ব্রীজ ম্যানেজমেন্ট উইং, সওজ অধিদপ্তর এর পত্র নং ১-১৭/১৫-৯২-ব্রীজ, তারিখ : ২৫-১১-২০১৫

উপর্যুক্ত বিষয় ও সূত্রোক্ত পত্রের পরিপ্রেক্ষিতে জানানো যাচ্ছে যে, **ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট** এর উপর অনুষ্ঠিত ১ম জেসিসি সভার আলোকে প্রণীত রেকর্ড নোট যথাযথ কর্তৃপক্ষ কর্তৃক অনুমোদিত হয়েছে (কপি সংযুক্ত)।

০২। অনুমোদিত রেকর্ড নোটটি পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য নির্দেশক্রমে এতদ্সঙ্গে প্রেরণ করা হল।

সংযুক্ত : বর্ণনামতে।

(মোঃ মাহবুবের রহমান)
সিনিয়র সহকারী প্রধান
ফোন-৯৫১৪২৬৬

প্রধান প্রকৌশলী
সড়ক ও জনপথ অধিদপ্তর
সড়ক ভবন, তেজগাঁও, ঢাকা

অনুলিপি সদয় অবগতির জন্য (জ্যেষ্ঠতার ক্রমানুসারে নয়):

১। অতিরিক্ত প্রধান প্রকৌশলী, ব্রীজ ম্যানেজমেন্ট উইং, সড়ক ভবন, তেজগাঁও, ঢাকা (সদয় কার্যার্থে)
২। সচিব মহোদয়ের একান্ত সচিব, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৩। যুগ্মপ্রধান মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৪। উপপ্রধান মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৫-৬। অফিস কপি/মাস্টার কপি

Minutes of the 1st JCC Meeting
-Bridge Management Capacity Development Project-

Date	August 30, 2015 3pm-4:30pm
Venue	Conference room in Ministry of Road Transport and Bridges
Chairperson	Secretary, Road Transport and Highways Division, Ministry of Road Transport and Bridges
Participants	Attached

1. **Opening Address**

   Self-introduction by the attended officials

2. **Welcome Address including Background of the Project**

   The background of the Project including project history had been introduced by the Project Director.

3. **Explanation of Project Implementation Plan**

(1) Team Leader of the Consultant presented and explained the followings.

1) Overall goal of the project
2) Project purpose
3) Output of the project
4) Project implementation schedule
5) Allocation plan of each expert
6) Selection of Model Division
7) Formation of Core Members (CM)

Project Implementation Plan was agreed and after long discussions the followings had been agreed.

[Technical terminology]

Modification of "Diagnosis" to "Evaluation" and modification of "Retrofitting" to "Strengthening".

[Training in Japan]

Project related officers, middle and junior level officers of RHD will be selected. The duration of the training should be expanded from two weeks to more.

[Local staff]

The duration of the system engineer (programmer) proposed in the implementation plan should be extended throughout the whole tenure of the project. This matter would be discussed with JICA by the Team Leader later.

[Stay of JICA expert in Bangladesh]

From the allocation plan of JICA expert, it is observed that the service of not a single expert continues for the whole term of the project. There should be at least 01(one) from the JICA consultant team who would stay in Bangladesh during the full period of the project. JICA representative and the Team Leader would discuss this issue later with JICA Headquarters.

(2) Project Monitoring Expert explained on PDM(Ver.1) and PO(Ver.1)

PDM(Ver.1) and PO(Ver.1) was agreed including the following revision.

"Human resource development plan (PDM(Ver.0)" is revised into "Institutional capacity development plan" in the PDM(Ver. 1).

[Preparation of equipment]

Bangladesh side:

According to "Facility and Equipment (PDM annex 1)" , personal equipment used for the inspection by MT (for example, safety equipment, testing hammer, tape measure / leveling stuff, crack scale sheet and camera) are furnished by RHD.

Japanese side:

Other necessary equipment for OJTs such as computers for database with accessories, concrete testing equipment, RC Rader, concrete core sampling apparatus, Electric drill and other necessary sophisticated and modern equipment that should be used for the assessment of bridge damages for OJTs should be furnished by Japanese side.

(3) Other Issues: TAPP

TAPP should be prepared within the shortest possible time. Necessary information required for TAPP would be given from Japanese side. Nevertheless the project activities will be proceeded as per agreed PDM & PO.

It was confirmed that even when the modification of PDM and PO is needed before next JCC meeting, the project could be proceeded with through the agreement among RHD, JICA and the Consultant team. This will be ratified at the next JCC meeting.

Next JCC meeting will be scheduled in January 2016.

The Chairperson ended the meeting with thanks to all for their fruitful discussion and wished the success of the project within scheduled time.

Project Design Matrix (Project Monitoring Sheet I)

Project Title: Bridge Management Capacity Development Project

Version 1

Implementing Agency: Organizations: Ministry of Communication, Roads and Highways Department (RHD)

Dated 30, August,2015

Target Group: Staff in RHD head office and zone offices

Period: [illegible] 2015, 34 months

Project Site: RHD Head office

Model Site: Manikgani Division

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remark
Overall Goal					
Bridge management under RHD is enhanced	1. Annual ratio of bridge inspection conducted by RHD is increased from XX% to XX% 2. Bridge maintenance cycle is conducted by RHD	• Record of bridge inspection • Input-output data of BMS			
Project Purpose					
Bridge maintenance capacity of RHD is improved	1. Bridge maintenance cycle is commenced by RHD 2. Necessary training based on the human resource development plan is conducted by Master Trainers (MT)	• Record of bridge inspection • Input-output data of BMS • Report on training conducted by Master Trainers (MT)	• Budgets for bridge maintenance are secured • Staff for bridge management is continuously allocated		
Outputs					
1. Bridge maintenance framework is developed	1-1. Documents of Bridge maintenance procedure and staff deployment are approved by XX 1-2. Bridge inspection based on the bridge maintenance cycle is commenced by RHD 1-3. Data management by utilization of BMS is commenced by RHD 1-4. Bridge maintenance plan (annual budget and work plans) in model area(s) is prepared	• Documents of Bridge maintenance procedure and staff deployment • Bridge maintenance plan (annual budget and work plans) in model area(s)			
2. Bridge inspection / evaluation manual and Bridge rehabilitation / strengthening manual are developed	2-1. Bridge inspection / evaluation manual is approved by XX 2-2. Bridge rehabilitation / strengthening manual is approved by XX	• Bridge inspection / evaluation manual • Bridge rehabilitation / strengthening manual			
3. Bridge management system is developed	3-1. Data accessibility of BMS is improved 3-2. BMS manual is approved by XX	• Access log of BMS • BMS manual			
4. Necessary knowledge of bridge management is enhanced by RHD staff	4-1. XX bridge inspection MT are trained 4-2. XX bridge rehabilitation MT are trained 4-3. XX BMS administrators are trained 4-4. The human resource development plan is approved	• Training report • Human resource development plan			

Annex 1

Activities	Inputs		Important Assumption
	The Japanese Side	**The Bangladesh Side**	
1-1. Actual condition of bridge maintenance is reviewed 1-2. Problems / issues on bridge maintenance cycle are identified 1-3. Institutional framework of bridge maintenance is reviewed 1-4. Documents of bridge maintenance procedure and standard of staff deployment are prepared 2-1. Existing bridge maintenance manual is reviewed and issues/problems on the manual are analysed 2-2. Bridge inspection / evaluation manual is updated [illegible] is updated [illegible] manual [illegible] prepared 2-3. Bridge rehabilitation / strengthening manual is prepared [illegible] manual [illegible] is prepared [illegible] manual [illegible] prepared 2-4. Manuals for Bridge maintenance are explained to RHD staff by Master Trainers (MT) 3-1. Existing BMMS is reviewed and analysed 3-2. Utilisation of BMS is examined together by RHD 3-3. Function of BMS is defined and developed 3-4. Data in existing BMMS is entered into BMS by RHD 3-5. BMS manual for administrators and users is prepared 3-6. BMS manual is explained to RHD staff by BMS administrators 4-1. On the job trainings (OJTs) on bridge inspection / evaluation in model area(s) are conducted with Bridge inspection / evaluation manual 4-2. OJTs on prioritizing bridges to be repaired in model area(s) are conducted by utilization of BMS 4-3. OJTs on selection of bridge rehabilitation / [illegible] measures, cost estimation in model area(s) are conducted with Bridge rehabilitation / strengthening manual 4-4. Advices on supervision of bridge rehabilitation / strengthening works are given by Expert 4-5. [illegible] resource development plan is prepared	1. Experts 1) Team Leader/Bridge Maintenance Plan 2) Bridge Inspection 3) Bridge Evaluation 4) Bridge Maintenance Plan (2) 5) Detailed Survey 6) Bridge Rehabilitation・Strengthening/Bridge Evaluation (2) 7) Cost Estimate 8) Bridge Management System 9) Asset Management 10) Project Monitoring 11) Coordinator/Bridge Maintenance Plan (Assistance) 2. Procurement of machinery and equipment 1) Computers for database with accessories 2) Concrete testing equipment ・Ground penetrating radar (RC Rader) ・Concrete core sampling apparatus ・Electric drill 3. Training in Japan 2 times 4. Expenses 1) Operational expenses for workshop and seminars 2) Other expenses needed for the Project implementation	1. Personnel 1) Project Director 2) Additional Project Director 3) Project Manager 4) Deputy Project Manager 4) Counterpart (C/P) of RHD 5) Other relevant units 2. Facility and Equipment 1) Offices (inside RHD building) 3. Expenses for activities 1) Personal and travel expenses and daily allowances for C/P 2) Other necessary costs	・Bridge rehabilitation / strengthening works for advisory activity (Activity 4-4) are implemented by RHD **Pre-Conditions** ・Skilled and appropriate engineers are allocated in RHD ・Policy priority on bridge maintenance is not drastically decreased **<Issues and countermeasures>**

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
সড়ক পরিবহন ও সেতু মন্ত্রণালয়
সড়ক পরিবহন ও মহাসড়ক বিভাগ
কার্যক্রম ও এডিপি শাখা

ডাইরী নং ৪২০০(২)প্র:শা
তারিখ ৩/৪/২০২৫
প্রধান প্রকৌশলীর (সওজ) দপ্তর
সড়ক ভবন, তেজগাঁও, ঢাকা

নং-৩৫.০৪.৩০০০.০৩২.০১৪.০২৫.১৫-১৪২

প্রাপ্তি স্বীকার করা হলো
তারিখ ৩/৪/২৫
অতিরিক্ত প্রধান প্রকৌশলী, সওজ
ব্রীজ ম্যানেজমেন্ট উইং

প্রধান প্রকৌশলী
সড়ক ও জনপথ অধিদপ্তর
সড়ক ভবন, তেজগাঁও, ঢাকা

অতিরিক্ত প্রধান প্রকৌশলী, স
ব্রীজ ম্যানেজমেন্ট উইং
সড়ক ভবন, তেজগাঁও, ঢাকা

বিষয়ঃ **ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট এর উপর অনুষ্ঠিত ২য় জেসিসি সভার আলোকে প্রণীত রেকর্ড নোট অনুমোদন প্রসঙ্গে।**

উপর্যুক্ত বিষয়ের পরিপ্রেক্ষিতে জানানো যাচ্ছে যে, **ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট** এর উপর অনুষ্ঠিত ২য় জেসিসি সভার আলোকে প্রণীত রেকর্ড নোট যথাযথ কর্তৃপক্ষ কর্তৃক অনুমোদিত হয়েছে (কপি সংযুক্ত)।

০২। অনুমোদিত রেকর্ড নোটটি পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য নির্দেশক্রমে এতদ্‌সঙ্গে প্রেরণ করা হল।

সংযুক্ত ঃ বর্ণনামতে।

(মোঃ মাহবুবের রহমান)
সিনিয়র সহকারী প্রধান
ফোন-৯৫১৪২৬৬

প্রধান প্রকৌশলী
সড়ক ও জনপথ অধিদপ্তর
সড়ক ভবন, তেজগাঁও, ঢাকা

অনুলিপি সদয় অবগতির জন্য (জ্যেষ্ঠতার ক্রমানুসারে নয়):

১। Senior Representative, JICA Bangladesh Office, 3rd Floor, Bay's Galleria, 57 Gulshan Avenue (CWS-A19), Gulshan-1, Dhaka-1212 (for kind information)
২। অতিরিক্ত প্রধান প্রকৌশলী, ব্রীজ ম্যানেজমেন্ট উইং, সড়ক ভবন, তেজগাঁও, ঢাকা **(সদয় কার্যার্থে)**
৩। সচিব মহোদয়ের একান্ত সচিব, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৪। যুগ্মপ্রধান মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৫। উপপ্রধান মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ
৬-৭। অফিস কপি/মাস্টার কপি

তত্ত্বাবধায়ক প্রকৌশলী, সওজ
ট্রেনিং এন্ড ডাটা সার্কেল
সড়ক ভবন, ঢাকা।

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Minutes of the 2nd JCC Meeting
-Bridge Management Capacity Development Project-

Date	January 28, 2016 15:00-16:15
Venue	Conference Room in ~~Ministry of~~ Road Transport and ~~Bridges~~
Chairperson	Secretary, Road Transport and Highways Division, Ministry of Road Transport and Bridges
Participants	List attached

1. **Opening Address** : Chairperson

2. **Welcome Address**

The background and goals of the Project including the present status of the project and strategy to achieve the desired goals had been addressed by the Project Director.

3. **Explanation of "Agenda of the 2nd JCC Meeting"**

A. Team Leader of the Consultant presented and explained the followings.

a) Response to the decisions taken in 1st JCC Meeting

i. Training of RHD Staff in Japan

- Decision at 1st JCC Meeting: The duration of Training of RHD Staff in Japan should be expanded from two weeks to more.
- Response: Consultant team proposed JICA to extend the training duration, which is under consideration by JICA.
- JICA Bangladesh Office Representative confirmed that it will be finalized after the review of detail contents of the program proposed by the consultants.

ii. Duration of services of Local Staff

- Decision at 1st JCC Meeting: The duration of service of System Engineer should be extended from 1(one) year to the period of whole project.
- Response: Team leader had discussed the issue with JICA. The tenure of System Engineer is 1(one) year based on project contract. The employment of programmers and their tenure are currently under consideration by JICA. Some of the programmers will continue the service throughout the whole tenure of the project.

iii. Stay of JICA experts in Bangladesh

- Decision at 1st JCC Meeting: At least one Expert from JICA Consultant Team should stay continuously in Bangladesh for the whole tenure of the project.
- Response: Basically at least one Expert from JICA Consultant Team will stay

in Bangladesh during the full period of the project.

iv. Preparation of Equipment

- Decision at 1st JCC Meeting: Personal equipment used for the inspection by MTs should be furnished by RHD. Other equipment for OJT should be furnished by Japanese side.
- Response: Japanese side will furnish 11(eleven) computers, 2(two) RC radars (Rebar Detectors), 2(two) Concrete Core Cutters, 2(two) Concrete Drills and Salinity Measuring instruments. The equipment was shown in Table-1 and Table-2.

v. Other Issues : TAPP

- Decision at 1st JCC Meeting: TAPP should be prepared within the shortest possible time. Necessary information required for TAPP should be given by the Japanese Side. Nevertheless the project activities will be proceeded as per agreed PDM (ver.-1) and PO (ver.-1).
- Response: Necessary information for TAPP has been already provided to RHD by the Japanese Side and Meeting on TAPP was held in the Ministry on 07-January-2016. And the activities of the project are going on according to agreed PDM and PO.

B. Project Monitoring Expert of the Consultants presented and explained the followings

a) Activities Conducted

i. Activities Conducted on Output-1

- 4(four) Workshops out of 8(eight) have already been conducted.
- Present Condition of Bridge Maintenance in RHD was reviewed and Problems of Bridge Maintenance Cycle were identified in WS1 (A1-WS1).
- Bridge Inspection Work Volume and Repair work Volume were explained in WS4 (A1-WS2).
- Composition of Bridge Inspection Team and Responsibilities of different level of officers were explained in WS7 (A1-WS4).
- Many queries by Core Members from previous workshops were clarified and explained elaborately in WS6 (A1-WS3).

ii. Activities Conducted on Output-2

- 3(three) out of 11(eleven) workshops have already been conducted.
- Bridge Condition Survey Manual-2014 was reviewed and different aspects of Bridge Inspection including defect types were presented in WS2 (A2-WS1).
- Development of Bridge Evaluation Manual was discussed in WS3 (A2-WS2).

- Some Case Study of Detailed Investigation of Bridge were presented and discussed in WS5 (A2-WS3).

iii. Activities Conducted on Output-3

- Limitations of existing BMMS have already been pointed out.
- Work plan for the development of new BMS has already been prepared in consultation with RHD.

b) Activities Remaining

i. Activities Remaining on Output-1

- A standard Institutional Framework for Bridge Maintenance Management will be developed through 4(four) more workshops.

ii. Activities Remaining on Output-2

- A standard Bridge Inspection and Evaluation manual will be developed through 4(four) more workshops.
- A standard Bridge Rehabilitation/Strengthening Manual (Method and Cost Estimate) will be prepared through 4(four) workshops.

iii. Activities Remaining on Output-3

- A computer based Bridge Management System (BMS) will be developed which will be free from the limitations of existing BMMS in RHD.
- Development plan, requirements, strategies, techniques and different factors of BMS will be decided through 4(four) workshops.

iv. Activities Remaining on Output-4

- 75 Master Trainers (MTs) from different divisions will be trained to use the newly developed manuals and BMS through On the Job Training (OJT).
- Tentative schedule for the commencement of OJT is October-2016.

4. **Discussions and Decisions taken at the meeting**

a) After long discussions the followings had been decided.

i. Project Monitoring Sheet-2 has been agreed by the JCC.

ii. Consultants will make lists of all necessary equipment, tools and machines (for going into the box of a box girder bridge or under a high bridge such as Meghna Bridge) for Bridge Inspection, Evaluation and Maintenance. At the same time, they will suggest RHD to procure other machineries and equipments that will not be supplied by JICA.

iii. Consultant will make suggestions about the qualifications of the persons responsible for the operation and maintenance of equipment/machines.

Government of the People's Republic of Bangladesh
Ministry of Road Transport and Bridges
Road Transport and Highways Division
Foreign Aid Section
www.rthd.gov.bd

Subject: Minutes of the 3rd JCC Meeting on Bridge Management Capacity Development Project

Chairperson	:	M. A. N Siddique Secretary, Road Transport and Highways Division
Venue	:	Conference Room of Road Transport and Highways Division
Date	:	March 05, 2017
Participants	:	List attached

2. **Presentation:** The meeting started with a welcome address by the Chairperson. The Project Director (Additional Chief Engineer, Bridge Management Wing) explained the background and goals of the projects. He also briefed the meeting about the latest implementation status of the project. The Project Director further explained the objectives of the meeting.

3. **Discussion:**

3.1 The compliance of the decisions taken in the 2nd JCC meeting is narrated below:

SL	Decision	Compliance
	Consultants will make lists of all necessary equipment, tools and machines (for going into the box of a box girder bridge or under a high bridge such as Meghna Bridge) for Bridge Inspection, Evaluation and Maintenance. At the same time, they will suggest RHD to procure other machineries and equipment that will not be supplied by JICA.	The lists of necessary equipment are prepared and attached in the Bridge Inspection and Evaluation Manual in Appendix–3. However, these lists are not final. These will be reviewed and finalized after the completion of countrywide bridge inspection by the concerned RHD officials.
	Consultants will make suggestions about the qualifications of the persons responsible for the operation and maintenance of equipment/machines.	Operation and Maintenance Manual including the qualifications of the persons in charge will be prepared later equipment by equipment after finalizing the lists of equipment.
	RHD should make plan to ensure the sustainability and proper maintenance of the equipment provided by JICA. JICA will support RHD to get desired equipment/ machines after reviewing the maintenance plan of RHD.	RHD will prepare the maintenance plan with the help of the consultants after getting the equipment as per TAPP. Both JICA and RHD will procure the equipment as per lists.
	RHD should deploy one/some qualified system analyst personnel for the position of BMS Administrator. Individual/They will receive training on BMS operation and maintenance in this project and will continue the job after the completion of the project. For its sustainability this position shall be proposed in RHD Organogram setup.	RHD is asked to submit the modified organogram to RTHD incorporating the new position.

Contd Page-2

3.2 The Project Director highlighted the goals, achievements, future strategy to achieve the remaining targets within the project time frame. The Team Leader of the Consultants presented and explained the following matters for the consumption of the meeting :

a) Bridge Maintenance Management Standard [Draft]
b) Bridge Inspection and Evaluation Manual [Draft]
c) Bridge Rehabilitation and Strengthening Manual {Part–1: Method & Part–2: Cost Estimation} [Draft]

3.3 Bridge Management System (BMS) Expert and System Engineer of the Consultants Team explained the followings:

- Bridge Management System (BMS) Manual (Users' Manual of BMS) [Draft]
- Demo Version of BMS

3.4 Team Leader of the Consultants presented and explained the followings:

- Detailed Plan of OJT (On the Job Training) for the Master Trainers (MTs)
- Review of Equipment
- Project Monitoring Sheet, version – 3 & 4
- PDM (Project Design Matrix), version – 3 & 4
- PO (Plan of Operation), version – 3 & 4
- Security of Japanese Nationals working in Bangladesh

3.5 A threadbare discussions has been held on the aforementioned topics as narrated below:

- Team Leader made some recommendations on the Bridge Maintenance Management Standard [Draft] for the establishment of better bridge maintenance management. The Chairperson told that the recommendations are very encouraging, but we may consider the implementable recommendations at this stage. JICA Representative requested to give importance on the action plan for the implementation of the recommendations.
- In response to the Chairperson's query, RHD informed that the previously prepared manuals had no connection to any evaluation or automation system and were not comprehensive enough to fulfil the demand of the situation. As a result new manuals are needed. These manuals are free from those shortcomings and hopefully these will be used for a long time for the better maintenance of bridges under RHD.
- Many new techniques and materials are incorporated in the Bridge Rehabilitation and Strengthening Manual [Draft] which are not available in Bangladesh right now. After practicing the manual in OJT, Consultants will ensure the fine tuning as per suggestions and field requirements and accordingly RHD will include those in their Schedule of Rates in near future.
- BMS is such a system which will contain bridge history as well as drawings, inspection & evaluation records, maintenance records etc. Accesses are controlled based on the level of the users post. This system is very dynamic.

Contd. Page-3

- TL proposed OJT to be held in April-May of 2017 in RHD Training Centre and Manikganj Road Division. The Chairperson disagreed with the proposal as these months are the end of dry season and near the end of fiscal year and RHD field engineers will be very busy with their works during this time. Moreover, with a view to ensuring a smooth traffic movement during Eid-ul-Fitr (tentatively on 26th June), RHD engineers will be in extreme pressure with road maintenance works. So the Chairperson requested to shift the OJT after June.
- Team Leader presented the modification of the equipment which will be provided by JICA. The salinity measuring instrument is excluded as the machine is restricted in Japan. Instead the consultants proposed an alternative way to measure salinity. Robot Camera is added in the list for the bridge inspection, which can be used as alternative of bridge inspection vehicle. Since using bridge inspection vehicle is cumbersome for many reasons, robot camera is a better alternative.
- The Chairperson requested for equipment which could be used for changing bearings of the bridges. But this sort of equipment is not included in the scope of this project.
- Monitoring Sheet, PDM & PO, version–3 were supposed to be submitted in the JCC Meeting in July 2016; but due to unexpected incidents that meeting could not take place. As a result, these documents are presented in this JCC meeting for approval. These documents were submitted to JICA in due time. These documents have the record of the progress of the project up to 15th July, 2016.
- Monitoring Sheet, PDM & PO, version–4 are the record up to 15th February, 2017.
- Two modifications are made in the PDM version–4. "MTs are trained" is added in the "Objectively verifiable indicators" of "Project purpose" and "Engineering equipment/ inspection equipment" is added in the "Inputs" by "The Bangladesh side".
- JICA Representative requested to install additional CC Camera in RHD Training Centre, Mirpur which is the working place of the Consultants and provide a monitor to the security personnel who are on duty. He also requested to set an alarm system in the working place to use during emergency.

4. **Decision/Recommendations of 3rd JCC Meeting:**

i. RHD will start the procurement process of the equipment and recruitment process of personnel very soon according to TAPP. The process will start in this fiscal year and will be completed by next fiscal year (2017-18).

ii. Bridge Maintenance Management Standard [Draft]; Bridge Inspection and Evaluation Manual [Draft]; Bridge Rehabilitation and Strengthening Manual [Draft]; Bridge Management System Manual [Draft]; Demo version of Bridge Management System (BMS) are approved in principle. These will be finalized after the necessary modification made based on the experiences of OJT and DTC (Divisional Training Course) by MTs.

iii. OJT is shifted from June 2017 to July 2017 and beyond. Consultants will submit revised schedule accordingly.

Contd. Page-4

iv. Project Monitoring Sheet, version – 3 & 4 are approved in principle.

v. PDM (Project Design Matrix), version – 3 & 4 are approved in principle.

vi. PO (Plan of Operation), version – 3 & 4 are approved in principle.

vii. Modification of the list of 'equipment provided by JICA' is approved in principle.

viii. Next JCC Meeting (4th JCC Meeting) will be scheduled in October 2017.

5. The Chairperson concluded the meeting with thanks and wished the success of the project as expected.

(M. A. N Siddique)
Secretary

No. 35.00.0000.032.014.025.15-304

Date: 31-05-2017

Distribution (Not as per seniority) :

1. Secretary, ERD, Shere-e- Bangla Nagar, Dhaka (requeting to send a suitable representative)
2. Chief Engineer, RHD, Tajgoan, Dhaka.
3. Additional Secretary (Dev.), Road Transport and Highways Division
4. Joint Chief, Road Transport and Highways Division
5. Additional Chief Engineer, Bridge Management Wing, RHD, Tajgoan, Dhaka
6. Representative, JICA Bangladesh Office, 3rd Floor, Bay's Galleria, 57/Gulshion Avenue (CWS-A19), Gulshan-1, Dhaka 1212
7. Deputy Chief (Planning and Programming), Road Transport and Highways Division
8. Superintending Engineer, Bridge Management Wing, RHD, Tajgoan, Dhaka
9. Excutive Engineer, Bridge Management Wing, RHD, Tajgoan, Dhaka
10. SDE, Bridge Management Wing, RHD, Tajgoan, Dhaka

31/5/17

(Md. Mahabuber Rahman)
Deputy Chief
Phone-9514266.
E-mail : nfmjmz@yahoo.com

Copy for information/necessary actions :

1. P S to Hon'ble Minister, Ministry of Road Transport and Bridge, Bangladesh Secretariat, Dhaka.
2. P.S to Secretary, Road Transport and Highways Division
3-4. Office Copy/Master Copy

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নং- ৩৫.০০.০০০০.০৩২.০১৪.০২৫.১৫-৭৩ তারিখ: ০৫/০২/২০১৮ খ্রিস্টাব্দ

বিষয়ঃ ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট এর বিষয়ে জাইকার সাথে অনুষ্ঠিত ৪র্থ জয়েন্ট কোঅর্ডিন্যাশন কমিটি (জেসিসি) সভার আলোচনা মোতাবেক প্রণীত রেকর্ড নোট অনুমোদন সংক্রান্ত।

উপর্যুক্ত বিষয়ের প্রেক্ষিতে ব্রীজ ম্যানেজমেন্ট ক্যাপাসিটি ডেভেলপমেন্ট প্রজেক্ট এর বিষয়ে জাইকার সাথে অনুষ্ঠিত ৪র্থ জয়েন্ট কোঅর্ডিন্যাশন কমিটি (জেসিসি) সভার আলোচনা মোতাবেক প্রণীত রেকর্ড নোটটি এ বিভাগ কর্তৃক অনুমোদনপূর্বক পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণের নিমিত্ত নির্দেশক্রমে প্রেরণ করা হলো।

সংযুক্ত: বর্ণনামতে।

(মোঃ মাখজানুল ইসলাম তৌহিদ)
সহকারী প্রধান
ফোনঃ ৯৫৫০২৩৭
makhjan.office@gmail.com

বিতরণ (জেষ্ঠ্যতার ক্রমানুসারে নয়)

১। প্রধান প্রকৌশলী, সড়ক ও জনপথ অধিদপ্তর, সড়ক ভবন, তেজগাঁও, ঢাকা।
২। Senior Representative, JICA Bangladesh Office, 3rd Floor, Bay's Galleria, 57 Gulshan Anenue, (CWS-A19, Gulshan-1), Dhaka.

অনুলিপি: (জেষ্ঠ্যতার ক্রমানুসারে নয়)

১। সচিব মহোদয়ের একান্ত সচিব, সড়ক পরিবহন ও মহাসড়ক বিভাগ।
২। যুগ্ম-প্রধান মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ।
৩। উপ-প্রধান (পরিকল্পনা ও কার্যক্রম), মহোদয়ের ব্যক্তিগত কর্মকর্তা, সড়ক পরিবহন ও মহাসড়ক বিভাগ।
৪-৫। অফিস কপি/মাস্টার কপি।

Letter-2018/35

Minutes of the 4th JCC Meeting [draft]

-Bridge Management Capacity Development Project-

Date	December 03, 2017 15:00-17:00
Venue	Conference Room of Road Transport and Highways Division
Chairperson	Additional Secretary, Road Transport and Highways Division, Ministry of Road Transport and Bridges
Participants	List attached

1. Opening Address:Chairperson

2. Explanation of "Decisions taken at the 3rd JCC Meeting"

Team Leader of the Consultants Team and Additional Project Director explained the status of the decisions taken in the 3rd JCC meeting; those are as follows –

i. Decision — RHD will start the procurement process of the equipment and recruitment process of personnel very soon according to TAPP. The process will start in this fiscal year but will be completed in the next fiscal year (2017-18).

➢ Response — Some of the equipment necessary for bridge inspection have already been purchased for OJT(1). Procurement process for the rest of the equipment will start after revision of TAPP and Recruitment of personnel will not be required since current RHD MIS circle is adequate enough to administer BMS.

ii. Decision — Bridge Maintenance Management Standard [Draft]; Bridge Inspection and Evaluation Manual [Draft]; Bridge Rehabilitation and Strengthening Manual [Draft]; Bridge Management System Manual [Draft]; Demo version of Bridge Management System (BMS) are approved for the use in OJT. These will be finalized after the necessary modification made based on the experiences of OJT and DTC (Divisional Training Course) by MTs.

➢ Response — RHD is working on the submitted draft manuals.

iii. Decision — OJT is shifted from June 2017 to July 2017 and beyond. Consultants will submit the detailed schedule accordingly.

➢ Response —OJT(1)was successfully completed in August 2017.

iv. Decision — Project Monitoring Sheet, version – 3 & 4 are approved in principle.

v. Decision — PDM (Project Design Matrix), version – 3 & 4 are approved in principle.

vi. Decision — PO (Plan of Operation), version – 3 & 4 are approved in principle.

vii. Decision — Modification of the list of 'equipment provided by JICA' is approved in principle.

- Response — These were discussed in JCC-3.

viii. Decision — Next JCC meeting (4th JCC Meeting) will be scheduled in October 2017.

- Response — JCC-4 was delayed due to the shift of 2nd training in Japan program.

3. Address by the Project Director

Project Director highlighted the goals, achievements, future strategy to achieve the remaining targets within the project time frame.

4. Explanation of "Agenda of the 4th JCC Meeting"

A. Team Leader of the Consultants presented and explained the followings —

a) Reporting on On-The-Job Training (1)

B. Additional Project Director presented & explained the followings —

a) Reporting on the 2nd Training in Japan

C. Team Leader of the consultants presented and explained the followings —

a) Extension of Project Period

b) Recommendation regarding BMCDP Phase-2

c) Project Monitoring Sheet (Version 5)

5. Discussions on the aforementioned topics

a) Team Leader explained all the activities of OJT (1) including the field visit to Manikganj where MTs were shown demonstration of robot camera for bridge inspection. The Chairperson inquired about the necessity of robot camera in context of Bangladesh. RHD informed him that in many cases the underside of the bridges is inaccessible & proper inspection of those bridges without the assistance of robot camera is very difficult & in some cases impossible.

b) The chairperson requested for technological assistance in order to determine underwater condition of submerged components of bridges i.e. piers & foundations. But this is out of the scope of this phase of the project.

c) Team Leader also explained the demonstration of detailed investigation methods

in the RHDTC during OJT(1). RHD explained how the results of these investigations can be used to adopt necessary preventive measures which can increase the lifespan of bridges significantly.

d) The chairperson requested for monitoring system to oversee the training program of the Sub-Divisional Engineers during the DTC.

e) Bridge inspection data is not enough now to prepare LCC (Life Cycle Cost) analysis. And also in case of bridges, it is not easy to use NPB (Net Present Value) & B/C (Cost Benefit Ratio) to determine the priority of rehabilitation. So, for the time being bridge importance degree will be used to determine the priority.

f) 3rd Training in Japan is scheduled for April 2018.Not less than 11 Master Trainers who are enthusiastic and have adequate knowledge and experience in operating BMS will be nominated for this training program.

g) Project Monitoring Sheet I(PDM, Version 5) &II (PO, Version 5) shows the activities & objectives of the project until September 2nd, 2018.

6. Decisions Made at the 4th JCC Meeting

i. RHD will start the procurement process of the remaining equipment after revision of TAPP.

ii. RHD will propose for the BMS site to be hosted and administered by RHD MIS circle.

iii. OJT (On the Job Training)-2 will take place in January 2018.

iv. DTC (Divisional Training Course) supporting seminar will be held at RHDTCin February & March, 2018 for allSDEs(Sub-divisional Engineer) of RHD.

v. 3rd Japan Training is scheduled for April 2018.

vi. PDM (Project Design Matrix) version-5 is approved in principle.

vii. PO (plan of Operation) version-5 is approved in principle.

viii. Next JCC meeting will be scheduledin August, 2018.

7. The Chairperson ended the meeting with thanks to all for their fruitful discussions and wished the success of the project within the scheduled time.

04.02.18

Mohammed Belayet Hossain
Additional Secretary
Development

Minutes of the 5th JCC Meeting [draft]

-Bridge Management Capacity Development Project-

Date	August 29, 2018　16:30-18:00
Venue	Conference Room of Road Transport and Highways Division
Chairperson	Secretary, Road Transport and Highways Division, Ministry of Road Transport and Bridges
Participants	List attached

1. **Opening Address:** Chairperson

2. **Explanation of "Decisions taken at the 4th JCC Meeting"**

Team Leader of the Consultants Team and Interim Project Manager explained the status of the decisions taken in the 4th JCC meeting; those are as follows –

i. Decision — RHD will start the procurement process of the remaining equipment after revision of TAPP.

- Response — Procurement of remaining equipment has been completed. Distribution of the equipment to field divisions has been started.

ii. Decision — RHD will propose for the BMS site to be hosted and administered by RHD MIS circle.

- Response — This provision is included in the approved revised TAPP. A New base for BMS is being Prepared. Server with whole set-up is being procured.

iii. Decision — OJT (On the Job Training)-2 will take place in January 2018.

- Response — On the Job Training-2 has been completed in scheduled time.

iv. Decision — DTC (Divisional Training Course) supporting seminar will be held at RHDTC in February & March, 2018 for all SDEs (Sub-divisional Engineer) of RHD.

- Response — DTC supporting Seminar was held on scheduled time.

v. Decision — PDM (Project Design Matrix) version-5 is approved in principle.

vi. Decision — PO (plan of Operation) version-5 is approved in principle.

- Response — These were discussed in JCC-4.

vii. Decision — Next JCC meeting will be scheduled in August, 2018.

- Response — JCC-5 is organized as per schedule.

3. Address by the Project Director

Project Director highlighted the goals, achievements, future strategy to achieve the remaining targets within the project time frame.

4. Explanation of "Agenda of the 5th JCC Meeting"

A. Team Leader of the Consultants presented and explained the followings —

   a) Reporting on Bridge Inspection in Manikganj and On-The-Job Training (2)

   b) DTC Supporting Training

   c) Final Draft of Bridge Maintenance Management Standard, Bridge Inspection & Evaluation Manual, Bridge Rehabilitation & Strengthening Manual.

B. BMS Expert presented & explained BMS Manuals & gave a live demo of the BMS website.

C. Team Leader of the consultants presented and explained the followings —

   a) Institutional Development Plan (Draft)

   b) Outline of Completion Report

   c) Overseas Study Program by JICA

   d) BMCDP Phase-2

D. Monitoring Expert presented & Explained Monitoring Sheet (Ver. 6)

5. Discussions on the aforementioned topics

a) Over 600 RHD officials & staffs were trained through this project. More than 200 officials received training directly from JICA Consultant Team while the rest was trained by Master Trainers.

b) JICA Consultant Team recommended installation of Structure Engineering Division in Each Zone. This newly formed division will be responsible for conducting bridge inspection, repair design, cost estimation as well as monitoring & reviewing of maintenance works. Each Structure Engineering Division office will be under supervision from Bridge Management Wing.

c) Nominated candidates from RHD for overseas study program in Japan are under scrutinization by JICA at this moment. RHD requested to JICA to try & accept as many candidates from Bangladesh as possible, if not all.

d) Phase II is necessary to improve the condition of bridges & culverts in Bangladesh.

RHD will submit a new application form to JICA Bangladesh Office as soon as possible.

e) Project Monitoring Sheet I (Project Design Matrix Version 6) is unchanged from the previous version (Ver. 5) which was approved in last JCC.

f) Project Monitoring Sheet II (Plan of Operation, Version 6) shows the activities & achievement of the project as of August 15, 2018 & scheduled activities of the project until November 2nd, 2018.

6. Decisions Made at the 5th JCC Meeting

i. Final draft of Bridge Maintenance Management Standard, Bridge Inspection & Evaluation Manual, Bridge Rehabilitation & Strengthening Manual and BMS Manuals are approved in principle.

ii. Draft of Institutional Development Plan is approved in principle.

iii. PDM (Project Design Matrix) version-6 is approved in principle.

iv. PO (plan of Operation) version-6 is approved in principle.

The Chairperson ended the meeting with thanks to all the participants for their fruitful discussions, especially to the JICA consultant Team for their efforts & contributions towards the completion of the Project and wished the success of the project within the scheduled time.