Appendix 4 Minutes of JCC Meetings

1st Joint Coordinating Committee Meeting on 31 March 2016

2nd Joint Coordinating Committee Meeting on 30 September 2016

3rd Joint Coordinating Committee Meeting on 15 March 2017

4th Joint Coordinating Committee Meeting on 10 October 2017

5th Joint Coordinating Committee Meeting on 03 April 2018

6th Joint Coordinating Committee Meeting on 07 August 2018

7th Joint Coordinating Committee Meeting on 01 February 2019

MINUTES OF 1ST JOINT COORDINATING COMMITTEE (JCC) MEETING

Date: March 31, 2016 @ 9:00 AM to 11:00 AM
Venue: DPWH Operations Room , 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side:

OTANI, Koji	2nd Secretary	Embassy of Japan in the Philippines
YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
SHIROUZO, Kenichi	Representative	JICA Philippine Office
Leah F. L. Penarroyo	Section Chief	JICA Philippine Office
Mae M. Catibog	Program Officer	JICA Philippine Office
MIHOKI, Yoshiyuki	JICA Road Planning & Mgmt. Advisor	DPWH/JICA

2. Honorary Members from JICA TCP Team:

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
KANGAWA, Masaki	Road Maintenance	DPWH JICA-TCP III
Umehara, Tokuo	Road Slope Pilot project	DPWH JICA-TCP III
IZAWA, Mamoru	Bridge Repair Pilot project	DPWH JICA-TCP III
NAKAMURA, Takao	Special Bridge Maintenance	DPWH JICA-TCP III
KURIHARA, Toshihiro	Special Bridge Repair	DPWH JICA-TCP III
HAKAMADA, Fumio	Special Bridge Repair	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Staff / Coordinator	DPWH JICA-TCP III

3. JICA TCP Admin/Support Staff

Rodrigo A. Yago	JICA TCP Staff	DPWH JICA-TCP III
Lady Dianne M. Awe	JICA TCP Staff	DPWH JICA-TCP III

4. Honorary Members of the Philippine Side: Department of Public Works and Highways (DPWH)

4.1 Members of the DPWH-Joint Coordinating Committee (JCC):

Rogelio L. Singson	Secretary	DPWH
Raul C. Asis	JCC Chairperson & Undersecretary for Technical Services	DPWH
Gilberto S. Reyes	JCC Co-Chairperson & Assistant Secretary for Technical Services	DPWH
Judy F. Sese	JCC Member, Project Manager & Director	Bureau of Research and Standards
Nenita R. Jimenez	JCC Member, Deputy Project Manager & Division Chief	DPD, Planning Service
Ma. Soledad Q. Balisi	Coordinator	DPD, Planning Service
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Walter R. Ocampo	JCC Member & Director	Bureau of Construction
Ernesto S. Gregorio, Jr. (Represented by Teofila SF. Borlongan)	JCC Member & Director	Bureau of Maintenance
Medmier G. Malig	JCC Member & Acting Director	Bureau of Quality Safety
Danilo E. Dequito	JCC Member & Regional Director	Cordillera Admin. Region (CAR)
Nerie D. Bueno	JCC Member & Regional Director	Region II

Antonio V. Molano, Jr.	JCC Member & Regional Director	Region III
Lea N. Delfinado (Represented by Maritess S. Quimpo)	JCC Member & Regional Director	Negros Island Region
Rolando S. Asis (Represented by ARD Edgar B. Tabacon)	JCC Member & Regional Director	Region VIII
Mariano R. Alquiza	JCC Member & Regional Director	Region XI
Danilo E. Versola	JCC Member & Regional Director	Region XIII
4.2 Members of the DPWH-Technical Working Group (TWG):		
Adriano M. Doroy (Represented by Blesilda Ramos)	Assistant Director	Bureau of Design
Aristarco M. Doroy	Assistant Director	Bureau of Construction
4.3 Members of the DPWH-Counterpart Working Group (CWG):		
4.3.1 Central Office		
Justino Jaime T. Surot, Jr.	Counterpart for Bridge	DPD, Planning Service
Teofila SF. Borlongan	Counterpart for Roads	Bureau of Construction
Ernante S. Antonio	Counterpart for Roads	Unified Project Management Office
4.3.2 Cordillera Administrative Region (CAR), Baguio City		
Elsa T. Naboye	Regional Project Manager	Quality Assurance & Hydrology Division
Jay Jenner B. Biares	Counterpart for Roads	Planning & Design Division
Ruth S. Duyo	Counterpart for Road Slope	Maintenance Division
4.3.4 Region VII, Cebu City		
Rosario C. Calves	Regional Project Manager	Maintenance Division
4.3.5 Region XI, Davao City		
Rowena P. Jamito	Regional Project Manager	Maintenance Division
Aurora M. Lacasandile	Counterpart for Roads	Construction Division
Alvin C. Cabueñas	Counterpart for Bridge	Construction Division
Elsa G. Grumo	Counterpart for Roads	Maintenance Division
Ma. Ysobel Suzette C. Piatos	Counterpart	Maintenance Division
Ma. Luisa R. Flores	Administrative/Support Staff	Maintenance Division
4.3.6 DPWH Counterparts for Special Bridges		
4.3.6.1 Region II, Tuguegarao, Cagayan City		
Ronalyn P. Ubiña	Counterpart for Special Bridges	Planning & Design Division
Rhett Willem P. Varilla	Counterpart for Special Bridges	Planning & Design Division
4.3.6.2 Region III, San Fernando, Pampanga City		
Recy L. Calma	Counterpart for Special Bridges	Planning & Design Division
Violeta T. Liwanag	Counterpart for Special Bridges	Quality Assurance & Hydrology Division
4.3.6.3 Region VIII, Tacloban City		
Adelina P. Gomez	Counterpart for Special Bridges	Quality Assurance & Hydrology Division
Liberato T. Homeres	Counterpart for Special Bridges	Planning & Design Division
4.3.6.4 Region XIII, Butuan City		
Danilo C. Pioquinto	Counterpart for Special Bridges	Quality Assurance & Hydrology Division

B. Minutes:

1. **Meeting started at 9:00 AM; Invocation by Ms. Rowena Jamito, playing of Japan and Philippine National Anthems**

2. **Introduction of Participants: Dir. Sese – Project Manager TP III**

(Dir Sese as the emcee, introduced the participants by reading the attendance record, shown in Part A of these minutes)

3. **Message of Secretary Rogelio L. Singson**

(Greets participants .....)

"If you recall in 2011 when the Aquino administration took over, we wanted to focus on quality and safety of our roads and bridges. I am happy to hear that we finished Phase I and Phase II which is very important in terms of helping DPWH achieve quality and safety of our roads and bridges.

Recently we did our own homework and we identified through audit some of the more common defects and deficiencies in the roads, not too much on the bridges. Hopefully, the team will now have some basis to start on where are the common defects that we see in the projects.

Of course on the bridge component, we have already issued the manuals. So it's a matter of continuing the training in DPWH so that can understand and use the manuals. Of course we have to provide corresponding funding for the maintenance of our bridges.

We would like to thank JICA and the Japanese government in pursuing this project. I know Phase III started this 2016 and scheduled for completion in 2019, this means that even with the advent of new administration in July, there is already an in-place continuation of what we started. I believe the DPWH in the coming years should focus on making sure that the work we do should be of better quality in terms of workmanship, technology and safety. We may have the best roads but not the safest roads. We request the study team does not to forget safety of roads and bridges.

At the end of the 3-year we have to see significant improvement. I understand, he team will be setting quantifiable standards. For me, the easiest would be roughness index, we want to see how many kilometers of national roads will have roughness index of at least 3 or better. Right now, the average is 4.5 to 5. We would like to bring it down to below 3. As you know, if it is above 3, it is poor quality as per international standard. I understand the objective is to see more national roads in good or fair rather than poor or bad condition.

Again I encourage the team to really work for the improvement of quality and safety of our national roads and bridges moving until we complete Phase III. What's important here as I would like to emphasize is that we are assuring the next administration of continuity to pursue better roads and bridges for the country.

Again, I thank JICA, Japanese government and consultants who will share with us their knowledge. Sometimes you will see some of our personnel hesitant to adopt new technology. I hope that you can convince our people that adopting new technologies will improve our roads and bridges.

You the consultants have to convince them. Sometimes they are hardheaded especially if they are not familiar with new technology, many of them wants to stay in our comfort zones and stick to what they know. As I said, don't give up easily on our personnel. You have to convince them that new methods of construction are going to be in the long run, result to better quality roads.

I hope that you, counterparts in DPWH open yourselves to new things. The internet is full of new technology, please check new methods and technology."

4. Call the Meeting to Order: Usec Asis – Chairman of JCC

(Usec Asis called the meeting to order)

5. Brief Presentation of JICA-TCP Activities and Accomplishments: Dir. Sese

Dir. Sese explained by a PowerPoint presentation the accomplishments of the Sustainability Program after TCP II. Details are as follows:

1. Duration: September 2014 – June 2016 (22 months)

2. Expected Outputs:
   Output 1 – Capability of engineers on road and bridge maintenance management is enhanced
   Output 2 – Capability of engineers on bridge inspection is enhanced
3. Organization:
   Special Order No. 04 s. 2015 which created the Management Team (MT) for the Sustainability Program for the Quality Management for Highway and Bridge Construction and Maintenance, Phase II. Management Team is composed of:
   Chairman - Undersecretary for Technical Services
   Co-Chairman - Asst. Secretary for Technical Services
   Members - Directors (PS, BOC, BOM, BOD, BRS, BQS)
   - Regional Directors of Pilot Regions (CAR, II, III, VII, VIII, XI, XIII)
   Memorandum dated Dec. 29, 2014 creating the Technical Working Group (TWG) and Counterpart Working Group (CWG) Members for the Sustainability Program, where the TWG provides technical support to the MT and CWG provides technical support to the TWG
4. Target Regions and Target Participants:
   For Trainers Training: TWG and CWG Members
   For OJTs- all Regions and DEOs (Maintenance Divisions/Sections, Planning and Design Divisions/Sections), Bureaus of CO
   For Pilot Projects - All Regions except NCR and NIR
5. Training Objectives
   a) To value the significance of sustaining the gains of TCP II;
   b) To determine the importance of maintenance management of national roads and bridges;
   c) To define, determine the types/causes of road and bridge defects, road slope failures, its repair methods and countermeasures; and,
   d) To build a sense of ownership
6. Budget Allocation

Region	CY 2015 (GAA) ₱ (Million)			CY 2016 (GAA) ₱ (Million)			
	Road	Bridge	Oper. Exp.	Road	Bridge	Special Br.	Oper. Exp.
All Ros. Incl. CO	120.00	180.00	5.50	30.00	40.00	100.00	5.00

7. Activities undertaken (Accomplishments as of March 2016)
    1. Conducted Trainers Training on Road and Bridge Maintenance – completed March 16-20, 2015
    2. Conducted on the-Job-Trainings (OJTs) on
        a. Road and Bridge Maintenance including Road Slope
        b. Bridge Engineering Inspection and Special Bridges
    3. Provided all 182 DEOs the 16 manuals for ready reference worth PhP 6.7 million
    4. Implement Pilot Projects on road and bridge maintenance in selected regions

8. Completed OJTs

REGIONS	COURSE/TOPIC	DATE	PARTICIPANTS
XI & XIII	Road and Bridge Maint. Incl. Road Slope	Apr 13-17, 2015	38
	Bridge Engg Inspection & Special Bridge	Apr 20-24, 2015	39
VII & VI	Road and Bridge Maint incl Road Slope	May 18-22, 2015	69
	Bridge Engg Inspection & Special Bridge	Jun 1-5, 2015	68
CAR & I	Road and Bridge Maint. Incl. Road Slope	Jul 20-24, 2015	66
	Bridge Engg Inspection & Special Bridge	Jul 27-31, 2015	44
X & XII	Road and Bridge Maint. Incl. Road Slope	Sep 14-18, 2015	58
	Bridge Engg Inspection & Special Bridge	Sep 21-25, 2015	58
IV-A & C.O	Road and Bridge Maint. Incl. Road Slope	Nov 23-27, 2015	35
	Bridge Engg Inspection & Special Bridge	Dec 1-4, 2015	34
IV-B & NCR	Road and Bridge Maint. Incl. Road Slope	Jan 18 - 22, 2016	43
	Bridge Engg Inspection & Special Bridge	Feb 1 -5, 2016	34
V & VIII	Road and Bridge Maint. Incl. Road Slope	Feb 29 - Mar. 5, '16	61
	Bridge Engg Inspection & Special Bridge	March 7 - 11, 2016	64
TOTAL	Road and Bridge Maint. Incl. Road Slope		370
	Bridge Engg Inspection & Special Bridge		341

9. Remaining OJTs

REGIONS	COURSE/TOPIC	DATE
II & III	Road and Bridge Maintenance including Road Slope	May 16 - 20, 2016
	Bridge Engineering Inspection & Special Bridge	May 23 - 27, 2016
IX	Road and Bridge Maintenance including Road Slope	July 18 - 22, 2016
	Bridge Engineering Inspection & Special Bridge	July 25 - 29, 2016

10. Status of Pilot Projects

Category	Allocation ₱ (million)				No. Of projects	Implementation status			Accomp. (%)	Remarks
	Roads	Bridge	Special Bridge	TOTAL		C	OG	NYS		
CY 2015	200.00	100.00	-	300.00	13	1	7	5		
CAR	-	20.00		20.00	1		1		76	ongoing
Region I	30.00	20.00		50.00	2		2		70	ongoing
Region II	30.00	20.00		50.00	2			2		For bidding
Reg. IV-A	30.00	20.00		50.00	3	1	1	1	5.00	
Reg. IV-B	30.00	20.00		50.00	2		2		32.50	ongoing
Region IX	30.00	20.00		50.00	2			2		Bid-out 03/22/16
Region XI	30.00			30.00	1		1			Proj. just started
CY 2016	30.00	40.00	100.00	170.00	9			9		
Region III			10.00	10.00	1			1		
Reg. IV-B	-	10.00		10.00	1			1		
Region V	10.00	10.00		20.00	1			1		
Region VI	10.00	-		10.00	1			1		
Region VII			20.00	20.00	1			1		
Region VIII		10.00		10.00	1			1		
Region X				10.00	1			1		
Region XII	10.00	10.00		10.00	1			1		
Region XIII			70.00	70.00	1			1		

C – Completed OG – On going NYS – Not Yet Started

11. Budget for FY 2016-2017 for JICA-TCP Phase III

Regional Offices	Proposed Budget for FY 2016) (a)	Approved Budget (GAA) FY 2016 (b)	BALANCE FY 2016 (Proposed in FY 2017) (c)	Budget Requirement for FY 2017 (d)	Proposed FY 2017 (E)
Total	315.75	175.00	140.75	360.35	501.10

6. Speech of JICA Senior Representative: Mr. Tetsuya Yamada

(Greets participants a good morning)

"It is my honor to be here. As Sec. Singson mentioned, in line with the DPWH plan in 2011 to 2015, It is becoming more and more important for the DPWH to work further on maintenance of roads and bridges in order to insure safety.

It is important not only for road users but the entire public. We have been working here with DPWH since TCP I and TCP II, and for TCP III we are aiming to provide further enhancement of the maintenance capabilities of all regions and district engineering offices and also to develop database system for maintenance use. Nine experts will be dispatched. Activities will be seminars, actual field trainings, revision of manuals and inclusion of young engineers in the trainings.

Coupled with Yen Loan projects, the technical cooperation project will enhance the total capacity of road infrastructure service. I would also like to emphasize that this project will contribute to the Japanese government's initiative to promote quality.

It is my sincere hope that this TCP III will be another example of quality infrastructure and that it will be fruitful. Thank you"

7. Speech of Japanese Embassy 2nd Secretary: Mr. Koji Otani

(Greets the participants good morning in Filipino)

"First of all, please let me express my gratitude to everyone here for your efforts in realizing this TCP III, especially to DPWH for conducting the sustainability program after completion of TCP II.

Maintenance is a big issue in Japan. The Japanese Diet approved yesterday a budget of about P100 bn per year for national roads maintenance. The budget is very big amount and so it is important to make maintenance work efficient to reduce cost. Japan is continuously developing maintenance technology. These technologies will also be useful in the Philippines.

I hope that TCP III will be successful. The embassy is worried on what would happen after election. We appreciate the Secretary's efforts in continuing this project.

8. Presentation of JICA Team: Hideo Nagao – JICA Project Team leader

Mr. Nagao gave a brief but concise PowerPoint presentation on the Work Plan for TCP Phase III. Among the information presented and explained to the JCC as follows:

Outline of the project:
- Title: Improvement of Quality Management for Highway and Bridge Construction and Maintenance Phase III.
- Duration: Three (3) years. Record of Discussions signed last Nov 2015.
- Project location: Roads and bridges maintained by DPWH in all 16 ROs and their DEOs.
- Target Participants: New young engineers from CO, ROs and DEOs
- Counterparts: CO, CAR,II, III, NIR,VIII,XI,XIII and additional new young engineers

Overall Goal: Improvement of condition of roads and bridges administered by DPWH
Purpose: Improvement of road and bridge maintenance works in DPWH
Plan of Operation:
1. JCC meetings will be held every six months

2. TWG and CWG meeting will be held from time-to-time
3. Monitoring of project through monitoring sheets will be reviewed every six months

Outputs (Targets):

1. Capability of concerened engineers of all Ros and DEOs on road maintenance management is enhanced
   1.1 Assist in conducting seminars/OJTs on road maintenance management through sustainability program for concerned engineers of all Ros and DEOs
   - JICA experts attend seminars/OJTs conducted through Sustainability Program and advice on road maintenance technology
   - JICA experts and C/Ps follow up Sustainability Program in all ROs and DEOs
   1.2 assist implementing pilot projects on road slope stability and relevant OJTs.
   - JICA experts and C/Ps conduct OJT (actual field training) on road slope stability during implementation of pilot project.
   1.3 Monitor and evaluate situations of road maintenance by Ros and DEOs
   - JICA experts and C/Ps monitor and evaluate how do engineers of ROs and DEOs improve road maintenance managment. To be done quarterly
   1.4 Review manuals on road maintenance and management and construction supervision that were developed and /or revised during Phase II and make necessary revisions.
   - JICA experts and C/Ps review manuals and if is is necessary, manuals are revised.

Afterwards, Mr. Nagao explained the schedule of activities for output 1 and showed pictures of pilot projects on road slope protection and routine maintenance; followed by recitation of the titles of manuals and guidebooks developed in TCP II.

2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.
   2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs.
   - JICA Experts attend seminars/OJTs by Sustainability Program and to advice on bridge maintenance technology.
   -JICA Experts & C/P follow up the Sustainability Program in all ROs/DEOs.
   2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs.
   - JICA Experts & C/P conduct OJT(Actual field training) on bridge engineering inspection.
   2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.
   -JICA Experts & C/P conduct OJT (Actual field training)on bridge repair during implementation of pilot project.
   2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs.
   -JICA Experts & C/P monitor and evaluate how do ROs/DEOs engineers improve the bridge maintenance management and engineering inspection quarterly.
   2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.
   -JICA Experts &C/P review manuals and if its necessary, manuals are revised.

Next, Mr. Nagao explained the schedule of activities for output 2 and showed pictures of

pilot projects on bridge repair, OJT on roitine maintenance and OJT on bridge engineering inspection; followed by recitation of the titles of manuals and guidebooks on bridges developed in TCP II.

3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on Special Bridge Maintenance Management is enhanced.
   3.1 Develop special bridge maintenance and management manual.
   -JICA Experts & C/P develop routine maintenance manual on special bridges.
   3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.
   -JICA Experts & C/P conduct OJT on special bridge routine maintenance using routine maintenance manual at Region II,III,VII,VIII and XIII.
   3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).
   -JICA Experts attend seminars/OJTs by Sustainability Program and to advise special bridge maintenance technology.
   -JICA Experts & C/P follow up the Sustainability Program in all ROs/DEOs.
   -JICA Experts & C/P conduct OJT on special bridge inspection of PC Box Girder in Region VIII.
   -JICA Experts & C/P conduct OJT (Actual field training)on special bridge inspection.
   3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.
   -JICA Experts assist C/P to implement pilot project on special bridge repair in RO II,III,VII,XIII.
   -JICA Experts & C/P conduct OJT on special bridge repair during implementatio of pilot project.
   3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.
   -JICA Experts & C/P monitor and evaluate how do ROs/DEOs engineers improve special bridge inspections quarterly.
   3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions
   -JICA Experts & C/P review manuals and if its necessary, manuals are revised.

After explaing output 3, Mr. Nagao discussed its schedule of activities and showed tabulation with pictures of the special bridges, specifically: Magapit, Bamban, Marcelo Fernan, 1st mandaue-Mactan, Agas-agas, and Diosdado Macapagal. He also showed some pictures of the OJT on condition inspection of above bridges as well as the manuals on condition inspection of various special bridges which were completed in TCP II.

4. Database system to be utilized for road and bridge maintenance mmanagement is developed.
   4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.
   4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system. Selected model Ros are CAR,RO-VII,RO-XI.
   4.3 Develop the database system based on the basic plan.
   4.4 Enter necessary data and make trial operations of the system at model ROs.

4.5 Improve the system in consideration of the results of trial operations at model ROs.
4.6 Prepare relevant manuals including operation manuals.
4.7 Conduct seminars on the database system and its relevant manuals.

After explaing output 4, Mr. Nagao discussed its schedule of activities.

Mr Nagao Introduced and Presented the JICA Experts assigned to TCP III:

1.	Hideo NAGAO	Team Leader/ Bridge Maintenance Management
2.	Teruyuki MIYAKAWA	Deputy Team Leader/ Database System
3.	Masaki KANGAWA	Road Maintenance Management
4.	Hiroshi SHINTANI	Road Slope Pilot Project
5.	Mamoru IZAWA	Bridge Repair Pilot Project
6.	Takao NAKAMURA	Special Bridge Maintenance Management
7.	Toshihiro KURIHARA	Special Bridge Repair Pilot Project
8.	Fumio HAKAMADA	Special Bridge Repair Pilot Project
9.	Sachiyo MATSUBAYASHI	Monitoring, Evaluation/Coordinator

Mr. Nagao announced schedule of trainings in Japan and 3rd world countries, as follows:

2016 to 2018	Place	Theme
1st Batch	Japan	Road Maintenance, Bridge Maintenance
2nd Batch	Japan	Road Maintenance, Bridge Maintenance
3rd Batch	Japan	Special Bridge Maintenance
	Third World Country	Road Maintenance, Bridge Maintenance

Mr. Nagao then explained that the following office equipment shall be provided for use of the Database System:

Projector	-	4
Copy machine	-	4
Desktop Conputer	-	4

These equipment will be utilized in activities related to OJT on database system and will be turned over to DPWH at termination of the project.

The news on project activities will be reported and posted on the JICA and DPWH website periodically.

Acording to Mr. Nagao, JICA and the DPWH will jointly and regularly monitor the progress of the Project through the Monitoring Sheets based on the Project Design Matrix (PDM) and Plan of Operation (PO). The Monitoring Sheets will be reviewed every six (6) months. Also, Project Completion Report will be drawn up one (1) month before the termination of the Project.

Lastly, Mr. Nagao requested DPWH to provide the following:

1. Additional Counterparts
   The New Young Engineers from Central Office and respective RO
   (CAR, II, III, VII, NIR, VIII, XI, XIII) as counterparts of TCP-III.
2. Necessary Budget
   Prepare necessary budget in 2016, 2017, 2018 for the implementation of TCP-III.
   - Implementation of Pilot project on Road slope , Bridge Repair, Special Bridge Repair
   - Conduct OJT (Actual field training) on Road Slope Stability & Bridge Repair, Bridge Engineering Inspection and Special Bridge Condition Inspection
   - Conduct OJT on Special Bridge Routine Maintenance, Special Bridge Condition Inspection (RO-VIII) and Special Bridge Repair(RO-II,III,VII,XIII)
3. Suitable office spaces with necessary equipment (office furniture and utilities such as internet connection, electricity, air conditioner, etc.)
4. Supporting Staff (Secretary, Supporting Engineers), Service Vehicle

Upon end of presentation, Mr. Nagao thanked the participants.

9. Comments and Suggestions

Sec. Singson "My 1st comment is: Mr. Nagao, can you include in your output any new equipment that DPWH will need for road and bridge maintenance, so that we can procure them early in the 3-year project?

Normally, the list is given at the end of the project when the consultants are not around anymore.

If you can identify them for us, we can include them in our regular budget as early as 2017."

"My 2nd comment is: You identified the pilot regions, but can you include as an output after the 1st year that all regions should already have a data base for bridge condition, In other words, even if they are not pilot regions, they should have data base on bridge condition.

Mr. Nagao "As far as I know, the DPWH has the Bridge Management System."

Sec. Singson "I don't think the reports are not that accurate. I am not sure if they did it correctly or not. At the end of Phase III, experts should be able to tell the regions whether their

reports are accurate enough for use in planning. Sometimes, they request for budget that they cannot prove or explain.

In other words, I suggest that after a certain period all regions can get accurate information on bridge conditions. While your experts are here, they can help the regions to make sure that the information are accurate."

Mr. Nagao "NDT equipment have been provided to all regions during TCP II and they we used during the sustainability program. They know how to use the equipment, unfortunately, they do not know how to analyze and evaluate bridge inspection data

JICA team will assist in analysis of data during the conduct of bridge engineering inspection nationwide."

Sec. Singson "Hopefully, after one year, we should have accurate information on actual condition of bridges nationwide. This should be part of project output."

Mr. Nagao "During this TCP III, DPWH has no budget for bridge condition inspection."

Sec. Singson "We can give budget to you. Just provide us an estimate of what is needed.

I repeat the 2 outputs; identify equipment and after one year, regions should be able to give accurate bridge condition data."

Mr. Nagao "We can recommend equipment for road and bridge maintenance but budget should come from DPWH."

Sec. Singson "DPWH will purchase the equipment.

When you say you young engineers, how many are you looking at?"

Mr. Nagao "We submitted a letter to Usec Asis, at least 6 young engineers per pilot region. We specified the number of engineers"

Sec. Singson "Are the regions represented here ready to provide?"

Dir. Alquiza "Sir, I suggest that we provide two (2) new engineers from the regions and one from the DO for training purposes."

Sec. Singson "What we need are counterparts which will be on full-time assignment."

Dir. Sese "Mr. Nagao, you requested for 22 new engineers from the pilot regions, but there are still existing counterparts."

Sec. Singson "I suggest that the pilot regions dedicate the counterparts to the project. The counterparts can teach the new engineers to sustain the program."

Dir. Sese "For the past 3 years, we encountered some problems. The counterparts sometimes cannot assist due to their other assigned projects."

Sec. Singson "They should be full-time at least in the regional level."

Dir. Alquiza "We will get from the existing personnel and new engineers."

Sec. Singson "I want to emphasize the importance of this task. I can't understand why you can't deploy full-time people for this activity. I suggest other non-pilot regions should also assign people to be deployed in the pilot regions. I will ask operations on this. For example Region I can deploy 2 engineers to region II. Again, please submit your budget requests on this."

Usec. Asis "I would just like to share some recent developments in DPWH to the study team.

- Recently, we completed the updating of the 45-year old DPWH Design Standards. There will be 8 to 9 volumes to be published. You can take a look at these new guidelines. We incorporated value engineering in the design stage.

- In the area of maintenance, there is an on-going technical study under WB, they started November last year. They are studying recommendations on maintenance practices including long term maintenance approach. You could take a look at the observations that they have made regarding maintenance so you could coordinate with them on the necessary interventions for this.

- Last year, the Secretary approved the adoption of Medium Term Quality Assurance Program (2016-2022). The thrust of the program is to have a shift in responsibility in quality. The contractors shall take responsibility in maintaining quality. There are nine strategies to maintain quality of infrastructures. You can get copy of the program from BQS.

- Also we have an Interim Road Safety Engineering Program that we have adopted. The Secretary said that our thrust is in quality and safety, and we have medium term plan for this. Perhaps you could be guided by the plans in your study.

- This month we will bid out the detailed investigation of 56 critical bridges under NRIMM II. Actually there were more than 200 bridges that are identified in an earlier study that are critical and needed detailed investigation to determine appropriate intervention. Since the WB loan is expiring this December 2016, we limited the number to 56. The project could be completed this year and so you would have additional data to use.

- Also recently, we completed four construction manuals (buildings, bridges, roads and flood control). We also came out with estimating manuals covering above categories. Probably, this could help you in your study."

Mr. Nagao "We have discussed with the WB consultant on maintenance practices and learned that they will conduct a workshop in the Central Office, we might attend said workshop."

Dir. Bueno "The fund for Region II pilot projects was released in 2015 and we shall start the projects this 2016 so that they can be used during conduct of actual field training. Last week, JICA experts visited Magapit Bridge and they found out other major damage that should be repaired. We estimated that it will cost another P150 million to repair and we are requesting for said budget."

Sec. Singson "Please submit your request and POW for our approval."

10. Approval of Work Plan

Dir. Sese	"Considering that the Work Plan would be revised due to comments and suggestions, we are going to revise it to include outputs requested by the Secretary."
Sec. Singson	"There is no need to postpone the signing. We will sign now so JICA team can proceed with the study. Just prepare and submit an amendment to the work plan."
Mr. Nagao	"We need the signed Work Plan for us to commence with our activities."
Dir. Sese	"Yes sir, we will sign the document now. "

(Usec Asis, Asec. Reyes and Dir. Sese then promptly signed the Work Plan)

11. Closing Remarks: Usec Asis

(Acknowledges the participants……)

"We have a sustainability program in the aftermath of the earlier technical study, which I guess is a most welcome study as it preserves the knowledge gained in our two previous studies.

When Secretary Singson came in 2010, he came up with 14 major objectives under performance governance system. The first two objectives refer to roads and bridges. At the end of his term, all the national roads should have been paved. At the end of last year, it is 97.50% which leaves only 300 kilometers to be paved this year. The second is that, all temporary bridges should be permanent, and now is 99% complete. The 3rd objective was to reach an IRI of at least 3. Currently it is 4.5 and we are working to bring it down to 3. You will see that we have completed our objectives. Now there is dramatic shift from construction to maintenance and asset in the future.

It is sad to say that our own contractors are not really ready for maintenance work as we saw in the past. Another approach is the so called long-term performance based maintenance contract of about 1,000 kilometers each under NRIMM and JRUPP. It is being evaluated but we don't see progress the way we expected it. We are now looking at other approaches to maintain national roads more effectively.

Also on national roads, we have new specifications (DO 47 S2015 – Adoption of IRI Values for All National Primary Roads) that require our national roads to have an IRI of 3 right now. The specifications calls for non-acceptance of work if the IRI is exceeded and the contractor should do diamond grinding or else they will not be paid for their accomplishment. But the technology is not common or popular in the country as it is in say, the USA. We are now working on this technology by outsourcing a consultancy work.

In the past, to improve the IRI of national roads we overlay the concrete road with asphalt, but we feel it is a very expensive way. We overlay once every 2 or 3 years our concrete roads. We want you to take a look at this. For the proposed viaducts and flyovers submitted to us, we suggested removal of asphalt overlay. In other countries, bridge decks are not overlaid with asphalt, so that if there are cracks, they will be visible. The present deign life of our roads is 20 years and we are aiming for 40 years, in other advanced countries, they design for 100 years.

There are challenges facing us. This is a very good study because it is trying to sustain what we learned earlier. It is very appropriate time since we are now in the period of changing of the guards. In 2017, 12

senior officials will retire, including me, Dir. Sese, Dir. Alquiza and five other directors. This is timely since we hired more than 2,000 young Engineers (below 30 years old). 15% of the workforce is young. These young people should be immersed in these activities. These people embrace new technologies and we should train them in technical as well as moral and spiritual aspect of work. I expect the regional directors to give full support to the study in the same way that the Secretary and the ManCom are fully supporting the study.

I lament the fact that our field engineers do not recognize the importance of maintenance in DPWH. It is this lack of understanding of what maintenance can do to the department such that we have a lot of rehabilitation projects and construction works instead of always concentrating on maintenance works. This causes a lot of waste as far as resources are concerned.

To the regional directors, please provide a small office space with furniture and internet connection to the experts. They also need counterparts and some administrative staff. During their stay in your regions please also provide them with service vehicle. In turn we get back their technology to our country. We get back trainings that they would be giving to our young people.

In behalf of the department and the Secretary, I would like to thank JICA for this study. Thank you all."

12. Closing: Dir. Sese

"Thank you Secretary Singson, Usec Asis, JICA as well as the directors for your support to the Study."

(The meeting was adjourned at 11:00 AM.)

13. Other events after meeting

- Picture taking
- Lunch

Nothing Follows

Prepared by:

Rodrigo A. Yago
Asst. Engineer 1 / JICA TCP II

Approved by:

Hideo Nagao
JICA TCP III Team Leader/ Bridge Maintenance

Noted By:

Judy F Sese
Project Manager TCP III
Director, BRS

MINUTES OF 2ND JOINT COORDINATING COMMITTEE (JCC) MEETING

Date: September 30, 2016 @ 8:30 AM to 11:30 AM
Venue: DPWH Operations Room , 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side:

OTANI, Koji	2nd Secretary	Embassy of Japan in the Philippines
YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
SHIBATA, Atsushi	Representative	JICA Philippine Office
Mariebel Dulay	Program Officer	JICA Philippine Office
Mae M. Catibog	Program Officer	JICA Philippine Office
MIHOKI, Yoshiyuki	JICA Road Planning & Mgmt. Advisor	DPWH/JICA

2. Honorary Members from JICA TCP Team:

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
SHINTANI, Hiroshi	Road Slope Pilot Project	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo A. Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority

Leni Hernandez	Representative	NEDA Central office

3.2 Members of the DPWH-Joint Coordinating Committee (JCC):

Gilberto S. Reyes	JCC Vice-Chairperson & Assistant Secretary for Technical Services	DPWH
Judy F. Sese	JCC Member, Project Manager & Director	Bureau of Research and Standards
Nenita R. Jimenez	JCC Member, Deputy Project Manager & Division Chief	DPD, Planning Service
Ma. Soledad Q. Balisi	Coordinator	DPD, Planning Service
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Ernesto S. Gregorio, Jr.	JCC Member & Director	Bureau of Maintenance
Medmier G. Malig	JCC Member & Acting Director	Bureau of Quality Safety
Ma. Nieva S. De La Paz	JCC Member & Director	Information Management Service
Danilo E. Dequito	JCC Member & Regional Director	Cordillera Admin. Region (CAR)
Antonio V. Molano, Jr.	JCC Member & Regional Director	Region III
Edgar B. Tabacon	JCC Member & Regional Director	Region VIII
Mariano R. Alquiza	JCC Member & Regional Director	Region XI
Danilo E. Versola	JCC Member & Regional Director	Region XIII

4.2 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers:

Adriano M. Doroy	Assistant Director	Bureau of Design
Aristarco M. Doroy	Assistant Director	Bureau of Construction
Teofila SF Borlongan	Div. Chief	Bureau of Maintenance
Elsa T. Naboye	Regional Project Manager	CAR
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI

4.3 Others

Juby B. Cordon	Assistant Director	RO VII
Suzette Piatos	CWG Member	RO XI
Elsa G. Grumo	CWG Member	RO XI
Liberato Homeres	CWG Member	RO VIII
Ruel M. Nazareno	CWG Member	RO XI
Ronalyn Ubina	CWG Member	RO II
Violeta Liwanag	CWG Member	RO III
Rhalf Cawaling		IMS

B. Minutes:

1. Registration 8:30 to 9am. Invocation by Ms. Rowena Jamito followed by playing of Japan and Philippine National Anthems from 9am to 9 15am.

2. Introduction of Participants: Dir. Sese – Project Manager, TP III

(Dir. Sese started the meeting and introduced the participants, refer to attendance list above)

3. Opening Remarks by Asec Gilberto S. Reyes

(Greeted participants .....)

"On behalf of Usec Asis, I am privileged to give this opening remarks. TCP Phase II is very relevant and timely to address the sustainability of the department's medium term program. Our national road network with a length of 31,242 kms paved and bridge length of 345,917 lm will be made permanent, hence the thrust of the next program will be the maintenance to sustain the life of completed infrastructure. The main objective of TCP III is a vital factor in sustaining our infrastructure.

The JCC meeting is held every six months to ensure that the work plan is followed and that JCC members are updated on the activities of the project.

The DPW is very enthusiastic on the transfer of new technology to new engineers and counterparts. This is an opportune time to DPWH to have this project since DPWH engineers will learn from Japanese experts.

It is hoped that this project will bring good working relationship between our two countries to ensure success. On behalf of Sec. Mark Villar, I would like to thank the GOJ thru JICA for extending financial and technical assistance to this project which is responsive to the Philippine development plans."

4. Brief Presentation of JICA-TCP Activities and Accomplishments: Dir. Sese- Project Manager

(Greeted participants .....)

Dir. Sese discussed a brief overview of the JICA TCP for the benefit of those new to the project.

Phase I started in 2007 and was completed in 2010. It focused on the three pilot regions, RO VII, XI and CAR. Activities conducted included the following: OJTs, procurement of NDT apparatus, trainings in Japan and development of manuals.

Because of the successful implementation of Phase I, JICA extended the grant to DPWH under JICA TCP Phase II. It started in 2011 and was completed in 2014. Phase II focused again on construction of pilot

projects on bridge repair and road slope protection, development of new manuals, revision and updating of the manuals completed in Phase I and conduct of OJTs. This time RO II, III, VIII and XIII were added as pilot regions in order to prepare maintenance manuals and to inspect the special bridges.

Again, because of the successful implementation of Phase II, JICA again, extended the same grant to DPWH to continue the project under Phase III. At the end of the project, DPWH announced that they will conduct Sustainability program to disseminate the knowledge gained in Phase II

Dir. Sese informed that while waiting for Phase III and as agreed in Phase II, DPWH C/Ps conducted sustainability program and conducted OJTs to the all regional offices from April 2015 to July 2016. A total of additional 860 engineers were trained during the period.

Phase III started in March 2016 and will end in Jan 2019. After reporting on the current status of Phase III, Dir. Sese explained the current issues and concerns about the project as follows:

a) Non-release of P101.95 million additional funds for 2016 which was approved by Sec. Singson on June 13, 2016.
   - PS Dir. Llanes and Ms. Jimenez explained that since budget requested is for purchase of BIV and NDT apparatus for NIR and NCR as well as for repair/replacement of defective NDT apparatus previously provided to the regional offices, fund will be taken from the 2017 allocation for Equipment Management Program under the BOE.
   - The Planning Service and JICA experts are now coordinating with the BOE on the technical specifications. BOE will be implementing office for the procurement of the BIV and NDT apparatus.
   - According to BOE, they will use their 2016 budget to procure BIV and NDT, which PS will replenish thru the TCP budget in 2017 GAA.

b) Some TWG/CWG members are not allowed to attend meetings and activities of TCP. Dir. Sese explained that during the 1st JCC meeting, Sec. Singson instructed that assigned C/Ps should always be present in TCP activities, because transfer of technology is important.

c) Some pilot projects from non-pilot regions showed poor quality and workmanship. This is because the some DEOs are not following the approved JIC-TCP manuals on bridge repair.

d) There is underspending of funds allocated to the project. The funds allocated to the regional offices for pilot projects in 2015 should have been 100% disbursed at this time. It has been noticed that some projects have just been issued NTPs. Please give priority to allocate and spend the budget up to end of 2016.
   - Asec Reyes asked why this problem is occurring.
   - Dir. Sese requested the RDs to give reactions, comments and reasons so that the management can help.
   - Dir. Sese requested the RDs to closely monitor the implementation of their pilot projects. For 2017 we will still have many pilot projects, and she hoped that these will be monitored properly to avoid the problem of underspending.

5. Message of Mr. Tetsuya Yamada - JICA Senior Representative

(Greeted participants.....)

"I noted that road maintenance and construction management is the thrust of the DPWH in the next six years.

This TCP activity is very much in line with PM Abe's initiative to promote quality infrastructure. This activity is also perfectly in line with the DPWH efforts to promote the sustainability program.

I am very glad to see the progress and tangible results of this project. We have conducted lectures, pilot projects, field trainings on bridge repair and road maintenance during the first six months of this project.

As Sec. Singson stated during the 1st JCC meeting, he would like to see more young new engineers involved in this project. Regarding the inventory of the apparatus, I am glad to see that such issues are being brought up by both sides.

I would also like to mention the importance of this project and I am glad that other nations' engineers are visiting the DPWH to see for themselves the effectiveness of this technical cooperation project."

6. Message of Mr. Koji Otani - Japanese Embassy 2nd Secretary

(Greeted the participants in Filipino.....)

"First of all, thank you so much for your efforts in this project although it has some issues. To be honest with you, I am not worried about the project at this time because the DPWH staff and the JICA consultants team are very familiar with the project already. I am very glad that as mentioned, the project is going very well under the new administration.

I hope that in this administration, maintenance will remain as one of the priorities. I think, the bigger challenge will be after the project is finished. It is important to continue the gains in this project after its completion. Thank you so much."

7. Presentation/Report of JICA Team by Hideo Nagao – JICA Project Team leader

First, Mr. Nagao explained the overall goal, project purpose and output of TCP Phase III :

- Overall goal of the project - Conditions of roads and bridges administered by DPWH are improved.
- Project Purpose - Road and bridge maintenance management works of DPWH are improved.
- Outputs:
  - ✓ Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.
  - ✓ Output-2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.
  - ✓ Output-3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.
  - ✓ Output-4: Database system to be utilized for road and bridge maintenance management is developed.

Mr. Nagao then reported on some of the activities conducted in Phase III, these are:

- Field trainings on bridge repair
- Field training on road slope
- Trainers training on NDT
- OJT on special bridge inspection
- OJTs on special bridge routine maintenance

(6-minute video presentation of OJT on special bridge routine maintenance was played)

In order to implement the activities of the 2nd term of the project based on the 2nd Term Work Plan continuously, Mr. Nagao said that the following will be undertaken:

To attain Output 1:

	Activity	Work Plan
1.1	Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for road maintenance.	• Monitor activities of road maintenance and follow-up seminars. • Review and analyze output of Sustainability and skill of DPWH engineers of all ROs/DEOs. • Assist the enhancement of knowledge and skill of DPWH engineers in all ROs/DEOs. • Recommend list of equipment/tools for road maintenance.
1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs.	For the 7 ROs (III, V, VI,VIII, X, XII, XIII) • Select Pilot Project site. • Recommend selection of construction method. • Conduct 3-day field training (Lecture, Actual Field Training, Discussions) • Monitor Pilot Projects.
1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	• Monitoring and evaluation of road maintenance in ROs/DEOs continuously. • Hold CWG on road maintenance/road slope meeting.
1.4	Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	• Review status of utilization of manual/guidebook. • Develop new manual on "Road Slope Protection Manual". • Review the Pocketbook on routine maintenance.

To attain Output 2:

	Activity	Work Plan
2.1	Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for bridge maintenance.	• Monitor activities of bridge maintenance and follow-up seminars. • Review and analyze output of Sustainability Seminar Reports. • Assist in the enhancement of knowledge and skills of DPWH engineers in all ROs/DEOs. • Recommend list of equipment/tools for bridge maintenance

2.2	Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.	• Prepare module and schedule of field training on bridge engineering inspection, Load Rating of Bridges in 2017 and 2018. • Conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges by area (Visayas and Mindanao). • Monitor implementation of bridge engineering inspection and to assist DPWH engineers continually. • Conduct checking of bridge condition inspection data on BMS for verification of the accuracy in all Regional Offices.
2.3	Assist in implementing pilot projects on bridge repair and relevant OJTs.	For 9 ROs (III, NCR, IV-B, V, VI,VIII, X, XII, XIII) • Select Pilot Project sites. • Recommend selection of construction method. • Conduct 3-day field training (Lecture, Actual Field Training, Discussion) • Monitor Pilot Projects.
2.4	Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	• Monitoring and evaluation of bridge maintenance in ROs/DEOs continually. • Hold CWG on bridge maintenance/bridge repair meeting.
2.5	Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	• Review status of utilization of manual/guidebook.

To attain Output 3:

	Activity	Work Plan
3.1	Develop special bridge maintenance management manual.	• Develop draft special bridge routine maintenance manual with C/Ps.
3.2	Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	• Conduct OJT on Special Bridge Maintenance Management in RO-II, VIII and XIII.
3.3	Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	• Preparation of module and schedule for field training in 2017 and 2018. • Conduct field training on Special Bridge Inspection by area. • Conduct special bridge inspection (Diosdado Macapagal Bridge) by Drone on November 22 in 2016.

3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	• RO-II (Magapit Bridge) – To conduct detailed inspection, preparation of bidding document. • RO-III (Bamban Bridge) – Bidding and implementation of project and conduct OJT. • RO-VII (1st Mandaue Mactan Bridge) – Bidding and implementation of project and conduct OJT. • RO-XIII (Diosdado Macapagal Bridge) – Implementation of project and conduct OJT.
3.5	Monitor and evaluate situations of special bridge inspections by ROs/DEOs.	• Monitoring and evaluation of special bridge maintenance in ROs/DEOs continually. • Hold CWG meetings on special bridge maintenance
3.6	Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.	• Review status of utilization of manual/ guidebook.

There will be bridge/road slope inspection in 2017 and 2018 as follows:

- Special bridge inspection by drone at Diosdado Macapagal Bridge in Butuan City (RO XIII), with demonstration on Nov 22, 2016;
- Special bridge inspection by drone at Magapit Bridge in Cagayan (RO II), scheduled by 2017; and,
- Road slope inspection in Baguio (CAR), scheduled by 2017

To further enhance capabilities of DPWH engineers, TCP III will also conduct field trainings on bridge engineering inspection/special bridge inspection/load rating, the details of which are as follows:

1. Duration (8 days)
   5-days for Bridge Engineering Inspection & Load Rating
   3-days for Special Bridge Inspection

2. Venue
   RO-III (Luzon Area): 8 RO (CAR, I, II, III, NCR, IVA, IVB, V)
   RO-VII (Visayas Area): 4 RO (VI, VII, VIII, NIR)
   RO-XIII (Mindanao Area):5 RO (IX, X, XI, XII, XIII)

3. Participants
   RO – 3 Engineers
   2 BMS Coordinator
   1 Bridge Designer Engineer
   CO – PS (BMS Team), BOD
   CWG Members
   NDT Trainers

4. Schedule
   2017 : 2 Areas (Mindanao, Visayas)
   2018 : 1 Area (Luzon)

In order to attain Output 4, TCP will undertake the following:

	Activity	Work Plan
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	(The activity completed already)
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	• Prepare the basic plan
4.3	Develop the database system based on the basic plan.	• Preparation of bidding document of database system by outsourcing.. • Bidding and contract of database system. • Procurement of equipment for database system.
4.4	Enter necessary data and make trial operations on the system at model RO.	• Collect data
4.5	Improve the system in consideration of the results of trial operations at model RO.	(to be conducted starting March 2017)
4.6	Prepare relevant manuals including operation manner.	(to be conducted starting March 2017)
4.7	Conduct seminars on the database system and its relevant manuals.	(to be conducted starting March 2017)

Mr. Nagao turned over the presentation to Mr. Miyakawa-Deputy Team leader of JICA Expert Team. Mr. Miyakawa explained the proposed Maintenance Information on Road Slope protection and Bridge Repair, in short, MIRB as follows:

- Background – During the JCC meeting of TCP-II, the Action Plan on the Proposed Improvement of Existing Project Documents Filing and Forwarding System in DPWH was approved. Based on this, a review of current filing system of documents/data related to road slope protection and bridge repair was undertaken and it was decided to develop the system in TCP-III.

- Purpose - The Maintenance Information on Road Slope Protection & Bridge Repair (hereinafter referred to as the "MIRB") will be developed for utilization of the data of the Road Slope Protection

and Bridge Repair Projects to make it an effective tool for the development of future projects. Since the DPWH is improving documents filing by ISO, MIRB can also support ISO in DPWH.

Mr. Miyakawa explained the outline of MIRB thru PowerPoint presentation. He further explained that In order to develop and disseminate the database system, three ROs (CAR, VII, XI) are chosen as Model Regions. The seminar on MIRB will be held in CAR, RO-VII, RO-XI. After development of the system, DPWH will disseminate the knowledge of the operation and technique of the MIRB to all Regional Offices and District Engineering Offices.

JICA will provide the following equipment to the three pilot regions:

1. Server hardware and software – for the database and web system
2. Laser Printer – with A3 scan function
3. Inkjet printer – with A4 scan function
4. Administrative Terminal – Desktop PC with monitor

The MIRB will be completed by the 3rd quarter of 2018.

After the presentation of Mr. Miyakawa, Mr. Nagao continued his report and explained the following:

The Amendment consisting of four (4) pages is based on the recommendations agreed upon during the discussions in the 1st Joint Coordinating Committee Meeting held on 31 March 2016, the JICA Expert Team, the Counterparts of DPWH, former Secretary Rogelio L. Singson and the concerned authorities of DPWH. Amendment to the Work Plan was approved as follows:

1. Addition of Item (3) in Sub-section 3.1.1
   3.1.3 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend List of Equipment/Tools for Road Maintenance.

   - JICA Expert Team and the Counterparts are searching Equipment/Tools for road maintenance.

2. Addition of Item (3) in Sub-section 3.2.1
   3.2.4 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend List of Equipment/Tools for Bridge Maintenance.

   - JICA Expert Team and the Counterparts are searching Equipment/Tools for bridge maintenance.

3. Addition to Item (3) in Sub-section 3.2.2
   3.2.2 Assist conducting seminars/OJTs on bridge engineering inspection by Sustainability Program for concerned engineers of all ROs/DEOs. Conduct Bridge Condition Data Review and Bridge Engineering Inspection.

   - JICA Expert Team and the Counterparts are checking the condition inspection data for bridges with Poor or Bad condition state as reported in the BMS to be selected

from each RO. The aim is to verify the accuracy of bridge condition data in all regions.

4. Addition to Item (5) in Sub-section 2.5.1
   2.5.1 Philippine Side- Provision of Additional Counterparts for Sustainability of the Project - DPWH shall provide additional counterparts to be assigned to the CWGs under TCP III, as follows:
   1) Technical Working Group
   2) Counterpart Working Group for Database System
   3) Counterpart Working Group for Road Maintenance/Road Slope
   4) Counterpart Working Group for Bridge Maintenance/ Bridge Repair
   5) Counterpart Working Group for NDT equipment/Apparatus
   6) Counterpart Working Group for Special Bridge
   7) Monitoring Team (Luzon, Visayas, Mindanao)
   8) Counterparts from Non-Pilot Regions

Furthermore, Mr. Nagao that as part of technology transfer on Road and Bridge Maintenance, there will be training in Japan on Nov 1 to 16, 2016 for the first batch of eight DPWH C/Ps.

Mr. Nagao also announced that JICA upon completion of TCP III the following tools, apparatus and equipment will be turned over to the DPWH:

1. Projector	1 unit	CO
2. Copy Machine	4 units	CO, ROs II, III, XIII
3. Desktop Computer	4 units	CO, ROs II, III,XIII
4. High Pressure Water Washer	5 units	ROs II, III, VII, VIII, XIII
5. Generator	5 units	ROs II, III, VII, VIII, XIII
6. Oxygen Meter	5 units	ROs II, III, VII, VIII, XIII

As part of the publicity activities of TCP III, reports and news are posted in the JICA and DPWH website. In JICA website 3 news stories have been posted.

Lastly, Mr. Nagao announced that JICA and DPWH will monitor the progress of the project through the monitoring sheet which will be submitted on March 2017. Monitoring sheets are reviewed every six months.

8. Discussions of Issues and Concerns

Mr. Nagao: As mentioned earlier, during the 2nd term we will conduct field trainings on engineering inspection. We need additional BIV as soon as possible.

Also as mentioned by Dir. Sese, some C/Ps particularly the new engineers are not allowed to attend our activities. They have to attend for effective transfer of new technology. I know that their participation is not full-time since they have regular work like preparation of annual work plan, but we hope that they start attending after they finish their assignments.

Asec Reyes: Mr. Nagao, can you give us a report on attendance of the C/Ps? Can you identify these personnel?

Mr. Nagao: In particular, one C/P of CAR is not being allowed to attend TCP activities.

Dir. Sese: May I request the RDs to submit final list of their C/Ps so that we can finalize the Special Order to be signed by Sec Villar.

Ms. Jamito: In our case, many of our C/Ps especially those in the PDD are involved in preparing plans for our projects this year.

Asec. Reyes: May I request concerned directors to allow your engineers to attend activities of TCP? I need the attendance list so we can see the details.

Dir. Sese: As I said, may we request that if you send an alternate C/P to our activities, please send the same person to the succeeding meetings and activities. Do not send another alternate. We cannot absorb transfer of technology if you keep changing the C/Ps.

Dir. Alquiza: Can we send instead, those from the Construction Division since our engineers in the planning and maintenance divisions are very busy nowadays.

Dir. Tabacon: In our region, we will try our best to comply with our obligations in TCP. It would help us if we know the schedules of TCP in advance, so we can adjust our own schedules,

Mr. Nagao: We will try to inform the C/Ps of schedule of our meetings and activities in advance.

Dir. Sese: I would like to explain to the directors that the schedule of the JICA Team is intermittent. May I request that C/Ps to be available when the experts are here. Each expert has his own specialization and it is necessary that C/Ps assigned are present when experts conduct the activities.

Asec. Reyes: I noticed that in the presentation on Output 4-Database, there are no work planned for Items 4.5, 4.6, and 4.7.

Mr. Nagao: Activities for Items 4.5 to 4.7 will start in April 2017.

Dir. Dela Paz: In the Schedule of Activities for the MIRB, may we request that we be involved in the activities, please provide us results of your meeting with DPW/WB. Are the plans and bid documents already finished?

Mr. Nagao: We met with WB twice already and your staff, Mr. Fajardo was present during the meetings. The WB project includes the PCMA but our project MIRB is different. The purpose of PCMA is the monitoring of progress of construction works while MIRB is about the use of technical information by DPWH engineers.

Dir. Dela Paz: Our concern is that, we have a set of standards to be followed.

Mr. Nagao: Yes, we have been informed about it by Mr. Fajardo

Dir. Sese: May I inform everybody that the JICA Team was directed by Usec Asis to coordinate with WB people to avoid duplication of activities and to complement each other.

Mr. Nagao: We assure that we will always coordinate with IMS regarding the MIRB.

9. Approval of 2nd Term Work Plan and Monitoring Sheet

(While the discussions were going on, the work plan and monitoring sheet were signed by Dir. Sese, asec Reyes, Mr. Nagao and Mr. Yamada.)

10. Continuation of Discussions of Issues and Concerns

Dir. Sese — After completion of TCP II, we conducted Sustainability Program. At that time we reproduced 186 sets of the 16 manuals and spent about P10 million so that all ROs and DEOs will have their own copies.

Asec Reyes: — I am just wondering why the manuals are not being used by the ROs and DEOs?

Ms. Jimenez: — I heard that the manuals are kept by some officers and not made accessible to the engineers in the ROs and DEOs. Anyway, the engineers can download e-copies from the DPWH website. If I may, I would like to raise the issue of poor quality of repair of bridges being undertaken by the DEOs since they do not know the correct repair methods and materials to be used. This is very alarming since in 2017, we allocated P6.9 billion for rehabilitation of bridges and another P2 billion for retrofitting.

We should work more on the dissemination of the bridge repair methods because remember, most of C/Ps we trained are not from the construction divisions and/or sections, yet it's the construction people that are implementing the projects. We also do not have quality standards.

Asec Reyes: — To those holding on to the manuals, please make them accessible to your staff.

Dir. Sese — During the sustainability program OJTs, we provide all participants with e-copies (in CD) of all the manuals.

Mr. Nagao: — C/Ps from the pilot regions are already experts on bridge repair and road slope protection, however, we found out that bridge repair projects in non-pilot regions are not in accordance with the manuals. The engineers still don't know proper repair procedures. That is why, I am requesting the RDs of the pilot regions to allow their C/Ps to join the experts in conducting actual field trainings and inspection of bridges in the non-pilot regions.

Dir. Sese: — Please note that since some of the activities are not yet included in the Blue Book, they fall under special items and will need approval of the secretary. Usec Asis gave us instruction to prioritize development of equivalent standards for items in the manual not found in the Blue Book.

Dir. Alquiza: — Mr. Nagao, I believe that conducting trainings to non-pilot regions will hasten technology transfer and we from the pilot regions are fully supportive of that.

Mr. Nagao: — I appreciate your support.

Asec Reyes: — May I know if JICA will provide drone and train our engineers in its operation?

Mr. Nagao: No, we will outsource the conduct of bridge inspection by drone and later we will prepare inspection form/manual for this. Since drone technology is continuously improving, it is not advisable to buy drones, since newer and newer models keep on developing every time.

Asec. Reyes: We have a plan to buy drone for use in our projects. BOD has funds to procure a unit for pilot projects.

Mr. Nagao: It is good if DPWH will purchase a unit.

Ms. Jimenez: Two regions have already procured drones and they are now using it in their survey works.

Dir. Tabacon: Region VIII has recently acquired a drone for P1.5 million. It is a good quality equipment and can do aerial mapping, determination of elevations and it is in 3D.

Ms. Naboye: A while ago we talked about poor quality of bridge repair works. For the pilot regions, there are no problems. The problem is that we have no control on implementation. The funds are included in the GAA and is given to the Construction Division. The C/Ps are not given authority to at least assist in implementation. This results in poor quality in terms of materials and construction methods.

Ms. Jimenez: For 2017, we have about P10 billion for road slope protection works. Like in bridge repairs, I have been hearing comments from other regions that those implementing the projects do not have knowledge of JICA repair methods. We have to address this issue since our budget keeps on increasing.

Asec Reyes: We have to issue a directive to the staff involved in implementing offices to follow the manuals.

Dir. Sese: Sir, in the implementation of the pilot projects, we are looking into new technology and new products/materials. When we introduce new technology, it entails additional costs. We are piloting these projects to see if these technology can be adopted considering our existing conditions. We should not put much emphasis and questions about costs. The costs may be expensive but if it results in a longer lasting projects, we should adopt them.

11. Closing Remarks by Dir. Sese

"We have discussed the work plan, monitoring sheet, accomplishments, corresponding options and alternatives to the issues. We have accomplished another milestone in JICA-TCP. As the project manager, together with the TWG, CWG, Usec Asis and Asec Reyes, we will ensure the DPWH's commitment to provide full support JICA for the successful implementation of the project.

Finally, on behalf of Sec. Villar, we wish to convey our profound gratitude and appreciation to GOJ for its efforts in bestowing continuous financial assistance and grant to our country, as well as to the JICA officials, technical experts, and officials from the Japan Embassy for their support to our engineers especially to the CWG members. It is a source of pride to undertake TCP with you.

Thank you JICA, concerned regional directors, JCC members, JICA technical support staff for the all-out support and assistance in the successful implementation of TCP Phase III."

(The meeting was adjourned at 11:30 AM.)

12. Other events after meeting

- Picture taking
- Lunch

Nothing Follows

Prepared by:

Rodrigo A. Yago
Asst. Engineer (Bridge) / JICA TCP III

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Judy F Sese
Project Manager TCP III
Director, BRS

MINUTES OF 3RD JOINT COORDINATING COMMITTEE (JCC) MEETING

Date: March 15, 2017 @ 8:30 AM to 11:30 AM
Venue: DPWH Operations Room , 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side (5):

OTANI, Koji	2nd Secretary	Embassy of Japan in the Philippines
YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
SHIBATA, Atsushi	Representative	JICA Philippine Office
MIHOKI, Yoshiyuki	JICA Road Planning & Mgmt. Advisor	DPWH/JICA
Carla Bautista	Program Officer	JICA Philippine Office

2. Honorary Members from JICA TCP Team (4):

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
KURIHARA, Toshihiro	Special Bridge Repair Expert	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority (1)

Robert Sario	Representative	NEDA Central office

3.2 Members of the DPWH-Joint Coordinating Committee (JCC) (13):

Raul C. Asis	JCC Chairperson	Undersecretary for Technical Services
Gilberto S. Reyes	JCC Vice-Chairperson	Assistant Secretary for Technical Services
Aristarco M. doroy	JCC Member, Project Manager & Asst. Director	Bureau of Construction
Nenita R. Jimenez	JCC Member, Deputy Project Manager & Division Chief	DPD, Planning Service
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Medmier G. Malig	JCC Member & Acting Director	Bureau of Quality Safety
Edgar B. Tabacon	JCC Member & Regional Director	Region VIII
Allan S. Borromeo	JCC Member & Regional Director	Region XI
Pol M. De Los Santos	JCC Member & Regional Director	Region XIII
Rhalf Cawaling	Representing Dir. De La Paz	IMS
Alberto N. Gahid – OIC ARD	Representing Dir. Dir. Bueno	CAR
Teresita C. Aguinde	Representing Dir. Ocampo	BOC
Reynaldo Faustino	Representing Dr. Tagudando	BRS

4.2 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers (5):

Adriano M. Doroy	Assistant Director	Bureau of Design
Teofila SF Borlongan	Div. Chief	Bureau of Maintenance
Elsa T. Naboye	Regional Project Manager	CAR
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI

4.3 CWG Members (13)

Blesilda Ramos	Engineer IV	BOD
Justino Jaime Surot, Jr	Engineer III	PS
Jay Jenner Biares	Engineer III	CAR
Ronalyn Ubina	Engineer III	RO II
Rhett Wilhelm Varilla	Engineer II	RO II
Recy Calma	Engineer II	RO III
Violeta Liwanag	Engineer II	RO III
Vicente Valle, Jr.	Engineer V	RO VII
Adelina Gomez	Engineer III	RO VIII
Liberato Homeres	Engineer II	RO VIII
Elsa Grumo	Engineer III	RO XI
Danilo Pioquinto	Engineer IV	RO XIII
Ruel Nazareno	Engineer III	RO XIII

B. Minutes of Meeting:

1 - 3 Registration 8:30 to 9am; Playing of Invocation/Prayer, Philippine and Japan National Anthems from 9am to 9 15am. (Emcee and moderator during the meeting – Ms. Nenita Jimenez, Deputy project Manager and Division Chief Planning and Development Division, PS)

4. Opening Remarks by Usec Raul C. Asis

(Greeted participants .....)

"First, allow me to extend my thanks to JICA for this 3rd phase in a series of TCP Project. Over the years, the department has learned a lot of new technology particularly in the use of NDT. During the 2nd phase, we conducted many training and implemented pilot projects in the pilot regions (CAR, RO VII and RO XI), now we are extending trainings and implementation of pilot projects to the non-pilot regions. This is very timely since we just introduced a new volume of the Blue Book on quality assurance. In the issuance of specifications, we clearly defined the role of contractors and the department. We want the contractors to be more responsible for quality control. In the new specifications we require contractors to perform a separate list of tests for quality control while the department undertake separate tests for quality assurance.

While we produced manuals in TCP Phase II, we are now revising some of them. Our people also went to Japan to further enhance their technical capabilities. To me, what is more important is that people in the department will be able to apply the technology learned. Now we are looking at new technology in the design and construction of disaster-resilient infrastructure. I hope that JICA will continue to give grant and help on this.

The GOP is going to spend about P8 billion over the next six years for infrastructure, which is about 7.5% of the GDP. New technologies will help us in attaining goal of our infrastructure program. Thank you and have a pleasant morning. "

5. Introduction of Participants

Project Manager Doroy introduced the participants to the meeting. Refer to attendance list above.

6. Presentation of JICA TCP III Activities and Accomplishments by Mr. Aristarco Doroy – Project Manager

Mr. Doroy gave a complete background TCP Project beginning from Phase I (2007-2010) to Phase II (2011-2014) and reported on the accomplishments Phase III (2016-2019). Accomplishment up to the reporting period include the following:

A. Meetings
   1) JCC Meeting – 2
   2) Monthly Meeting – 8
   3) CWG Meeting – 20

B. Pilot Projects
   1) Special Bridge – 4
      - RO XIII: Diosdado Macapagal Bridge – on-going
      - RO III: Bamban Bridge – Procurement by negotiation
      - RO VII: Ist Mandaue-Mactan Bridge – Bid-out
      - RO II: Magapit Suspension Bridge – Preparation of POW
   2) Bridge Repair
      - RO X Bukidnon 2nd DEO: 3 bridges
      - RO V Albay 3rd DEO : 2 bridges
      - RO III Tarlac DEO : 4 bridges
      - RO XIII Surigao DEO: 2 bridges
   3) Road Slope Protection
      - RO V: 1 project under POW preparation
      - RO X: 1 project under POW preparation
      - RO VI: 1 project under POW preparation

C. Trainings
   1) Field training on bridge engineering inspection using NDT – 2
   2) Trainers training on use of NDT – 1
   3) OJT on bridge engineering inspection and special bridge – 1
   4) OJT on special bridge inspection manual – 1
   5) Field training on bridge repair – 4
   6) Field training on road slope protection – 2

D. Bridge Condition Data Review
   1) Region II - 6 bridges
   2) Region IVB – 10 bridges
   3) Region V – 9 bridges
   4) Region VI – 7 bridges
   5) Region VIII – 11 bridges
   6) Region X – 5 bridges

E. Demonstration of bridge inspection by drone – 1

F. Japan training – 1

The following issues and concerns were reported by Mr. Doroy:

A. TWG/CWG members were not allowed to attend scheduled meetings of TCP Phase III.
B. Some pilot bridge repair projects implemented by non-pilot regions showed poor quality and workmanship due to non-observance of procedures in the technical manuals.
C. Purchase of additional BIV for Luzon Island

8. Message of JICA Senior Representative – Mr. Tetsuya YAMADA

(Greeted the participants.....)

"First, I would like to thank all of you for attending the meeting of this very important project, TCP Phase III. I would like to welcome our new project manager, Mr. Aristarco Doroy of BOC.

Second, I would like to emphasize the importance and timing of this project. As Usec Asis mentioned earlier, we are in golden age of construction in the country. We JICA, has on-going and newly committed projects in the country such as the anti-seismic bridge project and the newly started Davao Bypass project. Now, we are discussing the new master plan for high standard highway network, phase 2 which is planned this March.

It is also important to discuss maintenance issues. You know, recently there was an earthquake in Surigao. This event, is a strong reminder on how important it is conduct preventive maintenance on road and bridges which is the goal of our TCP.

Third, I also want to mention the good relationship of the GOP and GOJ. Recently, PM Abe accepted invitation form the Philippine president to visit Davao City. I would also like to thank the DPWH secretary and other cabinet members who went to Japan to discuss many important issues. As such, we now have a deeper understanding of infrastructure issues and programs of the Philippines.

Lastly, but none the less, I would like to reiterate that it is important that young engineers participate in all activities of the project. The DPWH is known to be one of the best agencies able to institutionalize technology transfer.

We are very satisfied with the way the project is progressing and we hope for more fruitful results. Thank you".

9. Message of Japan Embassy Secretary – Mr. Koji OTANI

(Greeted the participants.....)

"First of all, thank you for your efforts in the project. I am relieved that after the retirement of Dir. Sese, Asst. Director Doroy, the new project manager, is ably managing and continuing the project.

I am leaving my assignment at the end of this month. I have been in the Philippines for 3 years, and I am glad that the project is going on smoothly. I hope that after this project, the DPWH can continue maintenance work efficiently. I hope this project will lead to a more sustainable development of the Philippines".

10. Presentation of JICA Project Team: Outline of Work Plan from April 2017 to September 2017 – by Mr. Hideo NAGAO, JICA Team Leader

Mr. Nagao gave a brief summary of accomplishments of the 2nd Term (Oct 2016-Mar 2017). Previous accomplishments include:

A. Monthly meetings
B. CWG meetings
C. Selection of pilot road slope protection projects
D. Selection of pilot bridge repair projects

E. Field trainings on bridge repair
F. Field training on road slope protection
G. Checking of bridge condition inspection date in BMS
H. Database system
I. OJT on special bridge maintenance
J. Special bridge repair pilot project
K. Japan training
L. Special bridge inspection by drone in RO XIII

For the 3rd term (April 2017 – Sept 2017) project activities and corresponding work plan to attain the project outputs are:

Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

	Activity	Work Plan
1.1	Assist in conducting seminars/OJTs on road maintenance management for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for road maintenance.	1. Monitor activities of road maintenance and follow-up seminars. 2. Review and analyze output of Sustainability and skill of DPWH engineers of all ROs/DEOs. 3. Assist the enhancement of knowledge and skill of DPWH engineers in all ROs/DEOs. 4. Recommend list of equipment/tools for road maintenance.
1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs. In 2017-7 ROs (III, V, VI,VIII, X, XII, XIII)	1. Select Pilot Project site. 2. Recommend selection of construction method. 3. Conduct 3-days field training (Lecture, Actual Field Training, and Discussion). 4. Monitor Pilot Projects.
1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	1. Continuously monitor and evaluate road maintenance in ROs/DEOs. 2. Hold CWG meetings on road maintenance/road slope.
1.4	Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manual/guidebook. 2. Develop new "Road Slope Protection Manual". 3. Review the Pocketbook on routine maintenance.

Output-2: Capability of concerned engineers of all Regional Offices/District Engineering Offices on bridge maintenance management is enhanced.

	Activity	Work Plan
2.1	Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for bridge maintenance.	1. Monitor activities of bridge maintenance and follow-up seminars. 2. Review and analyze output of Sustainability Seminar Reports. 3. Assist the enhance knowledge and skill of DPWH engineers of all ROs/DEOs. 4. Recommend list of equipment/tools for bridge maintenance.
2.2	Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.	1. Prepare module and schedule of field training on bridge engineering inspection, Load Rating of Bridges in 2017 and 2018. 2. Conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges by area (Luzon and Mindanao). 3. Monitor implementation of bridge engineering inspection and to assist DPWH engineers continually. 4. Check bridge condition inspection data on BMS for verification of the accuracy in all Regional Offices.
2.3	Assist in implementing pilot projects on bridge repair and relevant OJTs. In 2017 – there will be pilot project in 9 ROs (III, NCR, IV-B, V, VI,VIII, X, XII, XIII)	1. Select Pilot Project site. 2. Recommend selection of construction method. 3. Conduct 3-days field training (Lecture, Actual Field Training, and Discussion). 4. Monitor Pilot Projects.
2.4	Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	1. Continuously monitor and evaluate bridge maintenance in ROs/DEOs. 2. Hold CWG meetings on bridge maintenance/ bridge repair.
2.5	Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review, monitor and analyze status of utilization of manuals/guidebooks.

To enhance the capability of engineers a 10-day training will be held one each in Luzon, Visayas and Mindanao. The details of the field training are as follows:

1. Duration (10 days)
   5-days for Bridge Engineering Inspection & Load Rating
   3-days for Special Bridge Inspection
   2-days for Homework
2. Venue
   RO-III (Luzon Area): 8 RO (CAR, I, II, III, NCR, IV-A, IV-B, V)
   RO-VII (Visayas Area): 4 RO (VI, VII, VIII, NIR)
   RO-XIII (Mindanao Area):5 RO (IX, X, XI, XII, XIII)
3. Participants
   RO – 4 Engineers (2 - BMS Coordinator, 1 - Bridge Designer, 1 – QAHD)
   CO – PS (BMS), BOD
   CWG (Bridge Maintenance, NDT) Members (Young Engineers)
4. Trainers
   CWG Members, NDT Trainers, Bridge Engineers (BOD)
5. Schedule
   2017: 2 Area (Mindanao, Luzon)
   2018: 1 Area (Visayas)
6. Budget (by DPWH)
   2017- P6 million (RO-III, RO-VII, RO-XIII)
7. Actions to be taken after training
   - RO should conduct field training to Accredited BMS Inspectors of DEO.
   - RO should conduct Engineering Inspection and Special Bridge Inspection at least 5 bridges.

Furthermore, there will also be a demonstration on bridge inspection and repair equipment using rack scaffolding. Demonstration will be held July 7, 2017 at Marcos Bridge along Marcos Highway.

Output-3: Capability of concerned engineers of all ROs/DEOs in target Regions (II, III, VII, VIII and XIII) on Special Bridge maintenance management is enhanced.

	Activity	Work Plan
3.1	Develop special bridge maintenance management manual.	1. Continue the development of special bridge routine maintenance manual with C/Ps.
3.2	Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	1. Conduct OJT on Special Bridge Maintenance Management in RO- VIII and XIII.
3.3	Assist conducting seminars/OJTs on special bridge inspections for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	1. Prepare module and schedule for field training in 2018. 2. Conduct field training on Special Bridge Inspection in Luzon and Mindanao Area. 3. Conduct special bridge inspection (Magapit Bridge) by Drone on October in 2017.

3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	1. RO-II (Magapit Bridge) – Conduct detailed inspection, preparation of bidding document. 2. RO-III (Bamban Bridge) – implementation of project and conduct OJT. 3. RO-VII (1st Mandaue-Mactan Bridge) – Implementation of project and conduct OJT. 4. RO-XIII (Diosdado Macapagal Bridge) – Implementation of project and conduct OJT.
3.5	Monitor and evaluate situation of special bridge inspections by ROs/DEOs.	1. Continuously monitor and evaluate special bridge maintenance in ROs/DEOs. 2. Hold CWG meetings on special bridge maintenance continually.
3.6	Review special bridge inspection manuals developed in Phase-II and make necessary revisions.	1. Review status of utilization of manuals/guidebook continuously.

Mr. Nagao showed video of Diosdado Macapagal Bridge drone inspection conducted last Nov 2016.

The following inspection by drone will be conducted in 2017

A. Magapit Bridge inspection by drone – October 2017
B. Road slope inspection by drone in CAR – July 2017

Implementation schedule of special bridge repair

A. Magapit Bridge – 2017 and 2018
B. Bamban Bridge – 2017
C. 1st Mandaue-Mactan bridge – 2017
D. Diosdado Macapagal Bridge - 2017

Output-4: Database system to be utilized for road and bridge maintenance management is developed.

	Activity	Work Plan
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	(Completed)
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	(Completed)
4.3	Develop the database system based on the basic plan.	1. Continue to develop the database system. 2. Procure equipment for database system.

4.4	Enter necessary data and make trial operations on the system at model RO.	1. Data collection. 2. Data entry.
4.5	Improve the system in consideration of the results of trial operations at model RO.	To be conducted after 3rd term
4.6	Prepare relevant manuals including operation manner.	To be conducted after 3rd term
4.7	Conduct seminars on the database system and its relevant manuals.	To be conducted after 3rd term

As part of TCP III program, the following supporting activities will be undertaken:

A. 2nd batch of training on road and bridge maintenance will be held in Japan on September 2017
B. Publicity activity through regular posting of project activities on the JICA and DPW website
C. JICA and the DPWH shall monitor the progress of the Project through the Monitoring Sheets on April 2017. The Monitoring Sheets are reviewed every six (6) months.
D. 2 CWG members will be dispatched to Japan for Master's Degree in 2018.

11. Approval of Work Plan and Monitoring Sheet

(The work plan and monitoring sheets were signed by DPWH and JICA)

12. Discussions of Issues and Concerns

12.1 Issue on non-participation of CWG members in TCP activities

Mr. Yamada:	On the issue of participation of CWG members, I note that this issue was also discussed in the last JCC meeting. What are the steps taken to resolve the issue
Dir. Borromeo of RO XI:	On our side we always make sure the CWG members participate in the activities.
Dir. Tabacon of RO VIII	He always allow the CWG members to attend TCP III work
Dir. De Los Santos of RO XIII:	We fully support TCP III activities and make sure CWG members attend activities
ARD of CAR	We promise to let our CWG attend the TCP III activities.

12.2 Issue on poor quality/workmanship

PM Doroy:	Memo was sent to the Regional offices to allow the CWG members to monitor the repair projects funded under TCP III. A separate memo was also sent to BQS to closely monitor these projects

12.3 Issue on need to purchase additional BIV for Luzon (NCR priority)

Usec Asis:	RO VII, RO XI and BRS should submit utilization schedule of the respective BIVs as well as NDT apparatus. The report will be the basis for considering whether we need to buy a new BIV.
Mr Nagao:	Another BIV is needed in Luzon.

Usec Asis: In the meantime we can use the BIV maintained by BRS. Personally I believe that the existing BIVs are underutilized. I also believe that drones can be used in inspection of the bridges, cost wise drones are cheaper to transport than BIVs.

Mr. Nagao: The BIVs will be used for engineering inspection and bridge repair. Drones can only be used for visual inspection.

PM Doroy: Are there any problems with the registration of the BIVs in RO VII and RO XI?

Ms. Jamito: Our BIV is duly registered and well maintained. We have budget for its maintenance and operation. We also allow other regions in Mindanao to use the equipment in their bridge inspections.

Mr. Nagao: After the OJTs on engineering inspection, the BIV should be used in regular bridge inspections of DPWH.

13. Closing Remarks by Asec Reyes

"I would like to commend the JICA Project Team headed by Mr. Nagao and the TWG members for the on-time accomplishment based on the work plan. TCP III is very relevant and timely in addressing the needs in infrastructure management program of the department. The thrust of the 2017-2022 medium term program is the sustainability of roads and bridges maintenance. I hope that the project will enhance the good working relationship between GOP and GOJ. On behalf of Sec. Villar, I would like to thank the GOJ through JICA for always extending assistance to the TCP projects."

(The meeting was adjourned at 11:30 AM.)

14. Other events after meeting

- Picture taking
- Lunch

Nothing Follows

Prepared by:

Rodrigo A. Yago
JICA TCP III Asst. Engineer (Bridge)

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Aristarco M. Doroy
Project Manager TCP III
Asst. Director, BOC

MINUTES OF 4TH JOINT COORDINATING COMMITTEE MEETING

October 10, 2017 @ 8:30 AM to 12:00 PM
DPWH Operations Room , 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side (5):

SHINTARO, Ichiki	2nd Secretary	Embassy of Japan in the Philippines
YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
SHIBATA, Atsushi	Representative	JICA Philippine Office
Peñarroyo, Leah	Section Chief	JICA Philippine Office
Carla Bautista	Program Officer	JICA Philippine Office

2. Honorary Members from JICA TCP Team (6):

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
NAKAMURA, Takao	Special Bridge Maintenance	DPWH JICA-TCP III
KANGAWA, Masaki	Road Maintenance	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority (None)

3.2 Members of the DPWH-Joint Coordinating Committee (JCC) (9):

Gilberto S. Reyes	JCC Vice-Chairperson	Assistant Secretary for Technical Services
Aristarco M. Doroy	JCC Member, Project Manager & Asst. Director	Bureau of Construction
Walter R. Ocampo represented by Edgardo Garos	JCC Member & Director	Bureau of Construction
Ernesto S. Gregorio, Jr.	JCC Member & Director	Bureau of Maintenance
Medmier G. Malig represented by Gerardo A. Macalinao	JCC Member & Director	Bureau of Quality and Safety
Ma. Nieva S. Dela Paz represented by Egan J. Fajardo	JCC Member & Director	Information Management Service
Nerie D. Bueno represented by Khadaffy Tunggal	JCC Member & Regional Director	CAR
Melanio C. Briosos represented by Alexander D. Nola	JCC Member & Regional Director	Region II
Allan S. Borromeo represented by Zenaida Tan	JCC Member & Regional Director	Region XI

4.2 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers (5):

Teofila SF Borlongan	Div. Chief	Bureau of Maintenance
Elsa T. Naboye	Regional Project Manager	CAR
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI
Ma. Soledad Q. Balisi	Coordinator	DPD, PS

4.3 CWG Members (13)

Blesilda Ramos	Engineer IV	BOD
Justino Jaime Surot, Jr	Engineer III	PS
Emmanuel Adriano	Engineer III	PS
Ruth S. Duyo	Engineer III	CAR
Jay Jenner Biares	Engineer III	CAR
Ronalyn Ubina	Engineer III	RO II
Rhett Wilhelm Varilla	Engineer II	RO II
Recy Calma	Engineer II	RO III
Violeta Liwanag	Engineer II	RO III
Adelina Gomez	Engineer III	RO VIII
Liberato Homeres	Engineer II	RO VIII
Danilo Pioquinto	Engineer IV	RO XIII
Ruel Nazareno	Engineer III	RO XIII

B. Minutes of Meeting:

1 - 2 Registration 8:30 to 9am; Playing of Invocation/Prayer, Philippine and Japan National Anthems from 9am to 9 15am. (Emcee and moderator during the meeting – Ms. Rowena Jamito, Regional Project Manager and Division Chief Maintenance Div., RO XI)

3. Opening Remarks by Asec Gilberto S. Reyes

(Greeted participants .....)

"Usec Reyes opened the meeting by acknowledging the presence of participants. He explained the agenda of the meeting. He announced that the TCP in going on smoothly according to the approved work plan. He added that the DPWH has already paved 71,242 kms of national roads and 345,978 mts of permanent bridges. He said that these roads and bridges need proper maintenance. The activities of TCP is an important support to maintenance.

It is opportune that through the TCP, new young engineers numbering about 150, are exposed to new technologies especially on bridge repair and road slope protection countermeasures. He thanked the GOJ through JICA for extending technical and financial assistance through the TCP, which is supportive of the Philippine development plan.

4. Introduction of Participants

Project Manager Doroy introduced the participants to the meeting. Refer to attendance list above.

5. Presentation of JICA TCP III Activities and Accomplishments by Mr. Aristarco Doroy – Project Manager

After giving a brief overview of the TCP Phase III, Mr. Doroy reported on the accomplishments of TCP Phase III (2016-2019). Accomplishment from start up to the reporting period include the following:

A. Meetings
   1) JCC Meeting – 3
   2) Monthly Meeting – 13
   3) CWG Meeting – 34
   4) Field Training Meeting - 2

B. Pilot Projects
   1) Special Bridge – 4

- RO XIII: Diosdado Macapagal Bridge – completed
- RO III: Bamban Bridge – on-going
- RO VII: Ist Mandaue-Mactan Bridge – on-going
- RO II: Magapit Suspension Bridge – Bid out of consultancy services

2) Bridge Repair : 8 regions for total of 16 bridges at various stages of implementation
3) Road Slope Protection: 7 regions for a total of 9 road slope protection projects at various stages of implementation

C. Trainings
1) Field training on bridge engineering inspection using NDT – 2
2) Trainers training on use of NDT – 1
3) OJT on bridge engineering inspection and special bridge – 1
4) OJT on special bridge inspection – 1
5) OJT on routine maintenance of special bridges - 4
6) Field training on bridge repair – 7
7) Field training on road slope protection – 2
8) 10-day training on special bridge condition inspection, bridge engineering inspection and bridge load rating (Luzon area) -1
9) OJT on special bridge repair - 2

D. Bridge Condition Data Review
1) Region II - 6 bridges
2) Region IVB – 10 bridges
3) Region V – 9 bridges
4) Region VI – 7 bridges
5) Region VIII – 11 bridges
6) Region X – 5 bridges
7) CAR – 3 bridges

E. Monitoring of completed projects – 1 region (bridge and road slope)
F. Demonstration of bridge inspection by drone – 2
G. Japan training – 2 batches

The following issues and concerns was raised by Mr. Doroy:
Delayed implementation of pilot projects due to:
a) Late validation and finalization of priority projects;
b) Late finalization of types of countermeasure and technology to be used, resulting to delayed preparation of plans and POW

Action taken on the Issue by TCP management group: TWG and CWG members were instructed to closely coordinate with concerned implementing office to facilitate procurement of contractors for the pilot projects.

Notes on discussions after the presentation: Usec Reyes instructed PM Doroy to submit list of projects by end of October 2017.

6. Message of JICA Senior Representative – Mr. Tetsuya YAMADA

Mr. Yamada thanked everyone who attended the meeting and gave a short message touching on the following topics:

- The somewhat lacking in attendance of the regional offices in the JCC meetings.
- TCP is an important project since maintenance of projects will be required for the many infrastructure projects under the current administration's "build-build-build" program with a budget of PhP 8 Billion.
- The TCP project is now 2/3 completed but the importance of the project has not really impacted in the on-going bridge and road maintenance.

- At present there are on-going efforts in the appraising of new Yen Loan projects for LRT 3, arterial roads, and bypass projects. We are now about to sign the loan agreements for these projects. Prime Minister Abe will sign the agreements next month. Studies for the projects are underway. The GOJ received requests from DPWH to assist in projects for ARMM, tunnel projects and scholarship programs.

Mr. Yamada expressed hope that this particular JCC meeting will serve as a very good opportunity to understand the progress of the project and for understanding the overall situation of road and bridge condition. This is very important in thinking about the future programs and projects proposed by DPWH and JICA.

7. Message of the 2nd Secretary of Japan Embassy – Mr. Shintaro ICHIKI

Mr. Ichiki greeted the meeting participants and introduced himself. He is the successor of Mr. Otani and he is in-charge of infrastructure projects in Embassy of Japan. Before coming to the Philippines he was in-charge of road policy planning in MILT of Japan.

Mr. Ichiki narrated that in Japan, infrastructure in Japan is a big concern. Most Japanese infrastructure was constructed in 1960's, now they are about 50 years old. And so, there ere accidents such as tunnel collapse and appearance of huge potholes and collapse of whole village. We have to do good maintenance to prevent these accidents. Of course these problems comes with related budget problems also. In 2014 the GOJ mandated that a large number of bridges and tunnels should be inspected with near-visual inspection at least every 5 years. We have made plans for checking the proper maintenance of the structures.

Mr. Ichiki understands that this TCP III deals with basic and important factors for maintenance like pilot projects, field trainings, etc. and he learned also that Japanese experience and knowledge are being used and he is glad that they are shared with the Philippines. Being both an island country prone to disasters, he hopes that Japan and Philippines can learn together and in the future share these knowledge. He hopes that Japan and Philippines become a strong team in the field.

8. Presentation of JICA Project Team:

8.1) Outline of 4th Term Work Plan (October 2017 to March 2018) - by Mr. Hideo NAGAO, Team Leader

Mr. Nagao gave a brief summary of accomplishments of the 3rd Term Work Plan (Mar 2017 – September 2017). These are same as enumerated in the presentation of Mr. Doroy (Agenda 5).

For the 4rd Term, the project activities and corresponding work plan to attain the project outputs are:

Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

	Activity	Work Plan
1.1	Assist in conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for road maintenance.	1. Monitor activities of road maintenance and follow-up seminars. 2. Review and analyze output of Sustainability and skill of DPWH engineers of all ROs/DEOs. 3. Assist the enhancement of knowledge and skills of DPWH engineers in all ROs/DEOs. 4. To provide list of equipment/tools for road routine maintenance.

1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs.	2017 – 7 ROs (III, V, VIII, X, XII and XIII) 2018 – 10 ROs (CAR, I, II, III, IV-A, IV-B, VI, VII, XI and XIII) 1. To assist in 3-day field training (lecture, actual field training and discussions) 2. To monitor pilot project. 3. To assist in the selection of pilot projects in 2018
1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	1. Monitoring and evaluation of road maintenance in ROs/DEOs continuously. 2. Hold meetings of CWG on road maintenance/ road slope.
1.4	Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manual/guidebook. 2. Develop new manual on Road Slope Protection. 3. Review the Pocketbook on routine maintenance.

As part the activity, road slope inspection using drone will be conducted in CAR on January 2018 to demonstrate the effectiveness of using drone in conducting road slope inspection.

Mr. Nagao further explained above activities by flow chart.

Output-2: Capability of concerned engineers of all Regional Offices/District Engineering Offices on bridge Maintenance management is enhanced.

	Activity	Work Plan
2.1	Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for bridge maintenance.	1. Monitor activities of bridge maintenance and follow-up seminars. 2. Review and analyze output of Sustainability Seminar Reports. 3. Assist the enhancement of knowledge and skills of DPWH engineers of all ROs/DEOs. 4. Provide list of equipment/tools for bridge maintenance.
2.2	Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.	1. Conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges by area (Visayas and Mindanao). 2. Check bridge condition inspection data on BMS in all Regional Offices for verification of the accuracy. 3. Assist Echo-Training in Luzon area.
2.3	Assist in implementing pilot projects on bridge repair and relevant OJTs.	2017 – 5 ROs (III, V, X, XII and XIII) 2018 – 9 ROs (CAR, I, II, NCR, IV-A, VI, VIII, XII, XIII) 1. Assist implementation of pilot project. 2. Assist 3-day field training (Lecture, Actual Field Training, and Discussion). 3. Monitor Pilot Projects. 4. Assist site selection of pilot projects in 2018

2.4	Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	1. Monitoring and evaluation of bridge maintenance in ROs/DEOs continually. 2. Hold meetings of CWG on bridge maintenance/ bridge repair.
2.5	Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manuals/ guidebooks.

To enhance the capability of engineers a 10-day training will be held one each in Luzon, Visayas and Mindanao. The details of the field training are as follows:

1. Duration (10 days)
   5-days for Bridge Engineering Inspection & Load Rating
   3-days for Special Bridge Inspection
   2-days for Homework
2. Venue
   RO-III (Luzon Area): 8 RO (CAR, I, II, III, NCR, IV-A, IV-B, V)
   RO-VII (Visayas Area): 4 RO (VI, VII, VIII)
   RO-XIII (Mindanao Area):5 RO (IX, X, XI, XII, XIII)
3. Participants
   RO – 4 Engineers (2 - BMS Coordinator, 1 - Bridge Designer, 1 – QAHD)
   CO – PS (BMS), BOD
   CWG (Bridge Maintenance, NDT) Members (Young Engineers)
4. Trainers
   CWG Members, NDT Trainers, Bridge Engineers (BOD)
5. Schedule
   2017: 1 Area (Luzon) July 12-21, RO III – Finished
   1 Area (Visayas) Nov 8-17, RO VII
   2018: 1 Area (Mindanao) RO XIII

5. Actions to be taken after field training
   - ~~RO should conduct echo- training to Accredited BMS Inspectors of DEO.~~
   - RO should conduct Engineering Inspection and Special Bridge Inspection at least 5 steel bridges and 5 standard bridges.

Mr. Nagao further explained the detailed activities for bridge maintenance by flow chart.

Output-3: Capability of concerned engineers of all ROs/DEOs in target Regions (II, III, VII, VIII and XIII) on Special Bridge maintenance management is enhanced.

	Activity	Work Plan
3.1	Develop special bridge maintenance management manual.	1. Develop the special bridge routine maintenance manual with C/Ps continually.
3.2	Conduct seminars/OJTs on special bridge routine maintenance management for concerned engineers of target ROs/DEOs.	1. Conduct OJT on Special Bridge Maintenance Management in RO XIII.

3.3	Assist conducting seminars/OJTs on special bridge inspections for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	1. Conduct field training on Special Bridge Inspection in Visayas and Mindanao Area. 2. To assist echo-training in Luzon area
3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	1. RO-II (Magapit Bridge) – Conduct detailed inspection, preparation of bidding document. 2. RO-III (Bamban Bridge) – implementation of project and conduct OJT. Prepare 2nd batch of pilot project 3. RO-VII (1st Mandaue-Mactan Bridge) – Implementation of project and conduct OJT. 4. RO-XIII (Diosdado Macapagal Bridge) – Monitoring and evaluation.
3.5	Monitor and evaluate situation of special bridge inspections by ROs/DEOs.	1. Monitoring and evaluation special bridge maintenance in ROs/DEOs continually. 2. Hold meetings of CWG on special bridge maintenance.
3.6	Review special bridge inspection manuals developed in Phase-II and make necessary revisions.	1. Review status of utilization of manuals/guidebook continually. 2. Include inspection by drone in the manuals

Mr. Nagao further explained the detailed activities for bridge maintenance by flow chart.

Output-4: Database system to be utilized for road and bridge maintenance management is developed.

	Activity	Work Plan
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Completed
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	Completed
4.3	Develop the database system based on the basic plan.	1. Develop the database system continuously.
4.4	Enter necessary data and make trial operations on the system at model ROs	1. Data entry. 2. Trial operation
4.5	Improve the system in consideration of the results of trial operations at model RO.	1. Review and improve system.
4.6	Prepare relevant manuals including operation manner.	1. None
4.7	Conduct seminars on the database system and its relevant manuals.	1. None

The following supporting activities will be undertaken as part of TCP III:

1. Invitation program (Road & Bridge maintenance) in Japan
   - Objectives: To discuss road & bridge maintenance strategy; To observe high quality of road & bridge maintenance technology and equipment and device.; To visit road and bridge construction and maintenance project site.
   - Schedule: Oct 15 – 24, 2017
   - Participants: Asec Reyes, Director of BOM, Director of BOE and TCP-III Counterparts

2. Third Country Training
   - Destination Country: Cambodia, JICA TCP (Bridge maintenance)
   - Schedule : Dec 9 - 17, 2017
   - Participants: TCP-III Counterparts

3. Publicity Activity - The project activity report/news are regularly updated on the JICA and DPWH website.

4. Project Monitoring - JICA and the DPWH monitor the progress of the Project through the Monitoring Sheets on October 2017. The Monitoring Sheets are reviewed every six (6) months.

8.2) Report on Special Bridge Inspection by Drone – by Mr. Takao NAKAMURA, Special Bridge Expert

Mr. Nakamura- Special Bridge Expert gave a presentation on special bridge inspection by drone. Under theTCP III, condition inspection of two special bridges (Diosdado Macapagal Bridge and Magapit Suspension Bridge) were undertaken using drone.

Mr. Nakamura explained the advantages of using drones in bridge inspection. These are:

- No need for bridge inspection vehicle
- Reduced inspection time.
- Provides high resolution geo-tagged photos and videos
- Close-up photos of damage inaccessible parts of structure.
- Technology used in Japan and in the world already
- Risks to inspectors are reduced
- Traffic disturbances are minimized

The types of drones normally used during inspection are fixed wing drone and rotary drone. Fixed wing drone which fly high collects data for mapping while rotary drone take detailed photos and videos since it can go near the bridge structure. Subsequently, Mr. Nakamura presented the results of investigation for the two bridges.

Notes on discussion after the presentation: On the question of who in DPWH should handle and operate drones, JICA Team recommended the use of drones for condition inspection of special bridges in the country. JICA team also recommend that inspection by drone be outsourced to qualified firms since drone operators must have license from CAAP and DND.

8.3) Report on Monitoring of the Project – by Ms. Sachiyo MATSUBAYASHI, Monitoring Expert

Ms. Matsubayashi reported results of midterm project monitoring /evaluation, the highlights of which are as follows:

A. Output 1

A. 1 Objective: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

A.2 Indicators:

- Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)
- 17 planned pilot projects on road slope stability were implemented

A.3 Progress of Activities: Refer to Agenda 5 as presented by Mr. Doroy

A.4 Achievements

- Conducting seminars/OJTs contributed to enhancement of counterpart's understandings according to the result of pre/post evaluation by participants. Counterparts who attend those activities have been lectured on manuals and also new technologies.
- Counterparts including young engineers act as trainers and speakers of seminars/OJTs. Some regions adopt the technology used in their pilot project on some other areas with same situation due to its positive result. Technical transfer to the young engineers and also to non-pilot regions has been promoted effectively.
- Pilot projects on road slope stability have been completed; Pilot projects on road slope stability are on-going.; Pilot projects on road slope stability are proposed.

A.5 Issues

- The pilot projects are delayed due to peace and order in Mindanao area and the on-going martial law.
- There are also delays due to changes of pilot project location and delay of Detailed Engineering Design.
- Most of contractors don't have sufficient experiences of road slope protection work.
- Since new items introduced by JICA team is not standardized yet, it takes time to be approved by DPWH.

B. Output 2

B. 1 Objective: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced

B.2 Indicators:

- Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)
- 17 planned pilot projects on bridge repair are implemented

B.3 Progress of Activities: Refer to Agenda 5 as presented by Mr. Doroy

B.4 Achievements

- Conducting seminars/OJTs contributed to enhancement of counterpart's understandings according to the result of pre/post evaluation by participants.
- Counterparts including young engineers act as trainers and speakers of seminars/OJTs. Engineers in non-pilot regions could find the repair technology which is introduced in trainings more effective and efficient in terms of implementation. Technical transfer to the young engineers and also to non-pilot regions has been promoted effectively.
- Pilot projects on bridge repair have been completed; pilot projects on bridge repair are on-going.; pilot projects on bridge repair are proposed.

B.5 Issues

- The pilot project is delayed due to peace and order in Mindanao area and the on-going martial law.
- There are also significant delays due to weather and late arrival of imported materials.
- The current position of the assigned counterpart is sometimes in conflict with the duties and responsibilities since they are having hard time on supervising pilot projects when it is under construction.

C. Output 3

C.1 Objective: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced

C.2 Indicators:

- Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)
- 4 planned pilot projects on special bridge repair are implemented

C.3 Progress of Activities: Refer to Agenda 5 as presented by Mr. Doroy

C.4 Achievements

- Conducting seminars/OJTs contributed to enhancement of counterpart's understandings according to the result of pre/post evaluation by participants.
- Participants from the region/districts observed the proper technology on how to do repair using the correct way.
- Counterparts including young engineers act as trainers and speakers of seminars/OJTs. Technical transfer to the young engineers has been promoted effectively.

C.5 Issues

- The pilot project is delayed due to weather conditions.
- The current position of the assigned counterpart is sometimes in conflict with the duties and responsibilities since they are having hard time on supervising pilot projects when it is under construction.
- Since new items introduced by JICA team is not standardized yet, it takes time to be approved in DPWH.

Notes on discussion of above Issues:

- On issue of new items introduced by JICA team, PM Doroy said that suppliers of new items are asked to submit technical manuals to BRS
- Asec Reyes asked that a timeline should be set. PM Doroy will request BRS.
- Asec Reyes also asked for a report on the accreditation by BRS

D. Output 4

D.1 Objective: Database system to be utilized for road and bridge maintenance management is developed

D.2 Indicators:

- Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started

D.3 Progress of Activities: Refer to Agenda 5 as presented by Mr. Doroy

D.4 Achievements

- Reviewed current filing situation of documents/data related to road and bridge maintenance management and identified issues to be improved
- CAR, RO-VII, and RO-XI have been selected as the pilot regions.
- Completed basic plan for developing the database system.

D.5 Issues

- There are no major issues as of now.

E. Recommendations

- Active Participation by Counterparts
  Even though technical transfer to the young engineers and non-pilot regions has been promoted effectively, they need to attend continuously the activities since they still lack hands on On-the-Job or actual experience because of their busy work load in their present office work assignment. To participate in the activities, support of Regional Directors and managers is absolutely necessary.

  ➢ Discussion
  PM Doroy explained that this occurs since C/Ps are not full-time with TCP III. Sometimes the demands of their regular assignments are in conflict. We request the RDs and ARDs to prioritize the attendance and participation of the CWG members

- Utilizing Manuals
  Some of the pilot project implemented by non-pilot region showed poor quality and workmanship since they are not aware of manuals developed in TCP-II.
  In order to conduct appropriate road and bridge maintenance, manuals should be disseminated to all RO and DEO promptly.

  ➢ Discussion
  Asec Reyes commented why some ROs and DEOs are not yet aware of the manuals. We have to monitor usage of the manuals. BOM shall monitor usage of the manuals

- Monitoring the Pilot Project by Counterparts
  Some counterparts cannot control the procurement process and also don't have the capability to monitor the implementation because of their current position in DPWH.
  Counterparts who assigned in the pilot projects should have authority to monitor and instruct the project implementation.

  ➢ Discussion
  The CWGs are monitoring the pilot projects.

9. Approval of Work Plan and Monitoring Sheet

The work plan and monitoring sheets were signed by DPWH and JICA.

10. Discussions of Issues and Concerns (Other issues discussed in Agenda 5 and 8)

Engr. Jamito	We have some comments on use of road slope countermeasures. Only the suppliers know the technology, not the DPWH, This causes delays in project implementation

Asec Reyes	BOD has 2 or 3 geologists, we should coordinate with them and also with BRS.
Engr. Naboye	For 2018, JICA Team shall introduce other types of materials and technology on road slope countermeasures
Asec Reyes	We will schedule a meeting with BOD and BRS regarding investigation and design of road slope countermeasures.

13. Closing Remarks by Asec Reyes

Asec Reyes thanked JICA experts for their efforts being exerted for smooth implementation of TCP and for sharing with DPWH, the new technologies on equipment and materials. He also expressed gratitude to GOJ through JICA Philippines for the support to the Philippines. In parting he encouraged the DPWH regional offices to give full support to the TCP.

14. The meeting was adjourned at 12:00 PM

Nothing Follows

Prepared by:

Rodrigo A. Yago
JICA TCP III Asst. Engineer (Bridge)

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Aristarco M. Doroy
Project Manager, TCP III
Asst. Director, BOC

MINUTES OF 5TH JOINT COORDINATING COMMITTEE MEETING

April 3, 2018 Tuesday @ 8:30 AM to 12:00 PM
Operations Room, 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side (4):

ICHIKI, Shintaro	2nd Secretary	Embassy of Japan in the Philippines
YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
Leah Peñarroyo	Section Chief	JICA Philippine Office
Carla Bautista	Program Officer	JICA Philippine Office

2. Honorary Members from JICA TCP Team (4):

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority (None)

3.2 Members of the DPWH-Joint Coordinating Committee (JCC) (12):

Emil K. Sadain	JCC Chairperson	Undersecretary for UPMO Operations & Undersecretary for Technical Services (concurrent)
Gilberto S. Reyes	JCC Vice-Chairperson	Assistant Secretary for Technical Services
Aristarco M. Doroy	JCC Member, Project Manager & Asst. Director	Bureau of Construction
Nenita R. Jimenez	JCC Member, Deputy Project Manager & Division Chief	Planning Service
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Walter R, Ocampo represented by Staff	JCC Member & Director	Bureau of Construction
Ernesto S. Gregorio, Jr. represented by Staff	JCC Member & Director	Bureau of Maintenance
Reynaldo G. Tagudando	JCC Member & Director	Bureau of Research and Standards
Ma. Nieva S. Dela Paz represented by Staff	JCC Member & Director	Information Management Service
Nerie D. Bueno	JCC Member & Regional Director	CAR
Edgar B. Tabacon represented by Carlito Lapuz	JCC Member & Regional Director	Region VIII
Allan S. Borromeo represented by ARD Zenaida Tan	JCC Member & Regional Director	Region XI

4.2 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers (6):

Teofila Borlongan	Div. Chief	Bureau of Maintenance
Ezekiel Bravo	Engineer III	Bureau of Research and Standards
Elsa T. Naboye	Regional Project Manager	CAR
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI
Ma. Soledad Q. Balisi	Coordinator	DPD, PS

4.3 CWG Members (12)

Blesilda Ramos	Div. Chief, Bridges Division	BOD
Justino Jaime Surot, Jr	Engineer III	PS
Emmanuel Adriano	Engineer III	PS
Ruth S. Duyo	Engineer III	CAR
Jay Jenner Biares	Engineer III	CAR
Ronalyn Ubina	Asst. District Engineer	CAR
Recy Calma	Engineer II	RO III
Violeta Liwanag	Engineer II	RO III
Adelina Gomez	Engineer III	RO VIII
Liberato Homeres	Engineer II	RO VIII
Danilo Pioquinto	Asst. Div. Chief, QAHD	RO XIII
Ruel Nazareno	Engineer III	RO XIII

B. Minutes of Meeting:

1. Registration 8:30 to 9am

2. Playing of Opening Prayer, Philippine and Japan National Anthems from 9am to 9 15am.

(Emcee and moderator during the meeting – Deputy Project Manager & Division Chief, DPD, PS)

3. Opening Remarks by Usec Emil K. Sadain

(Greeted participants)

Usec Sadain opened the meeting by acknowledging the presence of participants. He explained that in this 5th meeting of the JCC the discussion will be on the progress of TCP III. He explained that DPWH is lucky that since 2007, JICA has sustained the project which so far generated 16 manuals on maintenance with two (2) more coming. Usec Sadain then announced the formal opening of the day's meeting

4. Introduction of Participants

Project Manager Doroy introduced the participants to the meeting. A total of 46 participants attended the meeting.

5. Message of Sec. Villar – represented by Usec. Sadain

Usec Sadain announced that Secretary Villar is with the President for some urgent meetings, but rest assured that he is aware of this JCC meeting.

We know JICA TCP activities have produced and donated office equipment, maintenance equipment and tools, undertaken trainings as well as production of 16 technical manuals for maintenance.

In Marawi City, JICA is also assisting in its rehabilitation. DPWH is forever thankful to JICA for providing assistance even during the early stages of operation of DPWH.

We are now looking at JICA TCP as a continuing undertaking not only until Phase III but as a model by using the same approach on how to engage experts in JICA for other projects, considering that the DPWH is the agency tasked for infrastructure projects. With the approval of the subway project, DPWH will be a major partner in its implementation.

Other projects being considered constitutes of big-ticket projects with bigger and sophisticated structures like tunnels and bridges spanning islands to islands, now being studied by the ADB. Likewise, we also have projects funded by the WB, South Korea Exim Bank and others.

One thing we would like to attain here is strengthen the capacity development of DPWH officials and personnel. In fact under institutional strengthening program due to increase of projects, it is proposed to add 650 personnel for bureaus and services, 650 personnel for PMO operations and about 3,000 personnel for regional offices and engineering districts operations. We expect the DBM to approve and release corresponding additional budget of the department.

Part of the capacity development will be on training assistance from JICA. We also have to strengthen our set-up. I will be calling for sessions after I return from travel to Japan. I will submit the plans on what programs will need technical cooperation. There is need to tie this up with the needs of the current programs, especially in assisting the DOTC in the subway project. Another program will be for our cooperation with the BCDA.

The reason why the 16 manuals were developed is that DPWH personnel should use them diligently. We are also preparing some enhancement such as updating the manuals and creating new manuals and inclusion of new specifications instead of suppressing the use of new technologies and have these items incorporated in the PCMA.

Again, thank you JICA and we look forward to the continuity of our program.

6. Presentation of JICA TCP III Activities and Accomplishments by Aristarco M. Doroy – Project Manager

After giving a brief overview of the TCP Phase III, Mr. Doroy reported on the accomplishments of TCP Phase III (2016-2019). Accomplishment from start up to the reporting period include the following:

A. Meetings
   1) JCC Meeting – 4
   2) TWG and Monthly Meeting – 18
   3) Field Training Preparatory Meeting – 2
   4) TWG and CWG Workshop - 2
   5) CWG Meeting – 51

B. Pilot Projects
   1) Special Bridge – 5
      - RO XIII: Diosdado Macapagal Bridge – completed
      - RO III: Bamban Bridge – on-going
      - RO VII: Ist Mandaue-Mactan Bridge – on-going
      - RO II: Magapit Suspension Bridge – on-going
      - RO XIII: Taguibo Steel Bridge – on-going
   2) Bridge Repair : 9 regions for total of 16 bridges with 14 completed and 2 on-going implementation
   3) Road Slope Protection: 10 regions for a total of 12 road slope protection projects with 4 completed

C. Trainings
   1) Field training on bridge engineering inspection using NDT – 2
   2) Trainers training on use of NDT – 1
   3) OJT on bridge engineering inspection and special bridge – 1

4) OJT on special bridge inspection – 1
5) OJT on routine maintenance of special bridges - 4
6) Field training on bridge repair – 9
7) Field training on road slope protection – 2
8) 10-day training on special bridge condition inspection, bridge engineering inspection and bridge load rating (Luzon area and Visayas area) -2
9) OJT on special bridge repair - 2

D. Bridge Condition Data Review
1) Region II - 6 bridges
2) Region III – 5 bridges
3) Region IVB – 10 bridges
4) Region V – 9 bridges
5) Region VI – 7 bridges
6) Region VIII – 11 bridges
7) Region X – 5 bridges
8) CAR – 3 bridges

E. Monitoring of completed projects – 1 region (Region II; 2 bridges and 1 road slope)
F. Demonstration of bridge inspection by drone – 2
G. Demonstration of road slope survey inspection by drone - 1
H. Japan training – 2 batches
I. Observation trip on road and bridge maintenance in Japan – 1
J. Third country training in Cambodia - 1

The following issues and concerns was raised by Mr. Doroy:
Delayed implementation of Pilot Projects and the conduct of seminars/OJT in Mindanao Area due to the extension of Martial Law wherein the JICA Expert/Counterpart were not allowed to travel in some parts of Mindanao Area.

Action to be taken: DPWH TWG and CWG to proceed with the conduct of seminars/OJTs without the JICA experts if venue will be RO XII or transfer the training venue from Region XIII to Region XI so that JICA experts can support the training.

7. Message of JICA Senior Representative – Mr. Tetsuya YAMADA

We are now entering the 3rd year of TCP III, in fact the last year.

As you all know, we are witnessing a high growth of economy which is about 7%, but we should be careful in looking at numbers. The demand side of the GDP showed 25% growth in public expenditure the last quarter of 2017. What I can say is the country is spending a lot under the build-build-build program of the administration.

That means we should be more responsible in enhancing our human resources in maintaining and managing the accumulated infrastructure including road and bridge sector.

We are very proud of that and as what Usec Sadain said. We are also undertaking the subway project, and just recently approve the Plaridel Bypass Phase III, attended the groundbreaking of Clarin Bridge which is part of project under ODA. We are also funding the interchange projects and the earthquake resistant bridges in Metro Manila.

I would like to reiterate my thanks for your attendance to this JCC meeting. Thank you Usec Sadain for mentioning the other possible continuation of cooperation between JICA and the DPWH.

8. Message of the 2nd Secretary of Japan Embassy – Mr. Shintaro ICHIKI

On behalf of GOJ, I sincerely express my gratitude to everyone who invested time and effort in this project. This TCP focuses on quality management and maintenance which is one of the most important work to keep road and transport system safe at the same time, proper management works reduce life cycle maintenance cost which will lead to better economic growth.

I heard that the draft Road Slope Protection Manual and Special Bridge Maintenance Manual will be approved in this JCC meeting. I am very glad to share our experience and knowledge and I hope that these manuals will be very useful to the DPWH and the Philippines. However, the most important thing is not to just make them but actually use them and do continuous effort on proper maintenance management. To this end, I hope the DPWH will continue to invest its effort and proper budget for maintenance management with the help of the manuals provided in this project.

I hope to see this TCP translate to better road transportation and to improve the lives of very one in the Philippines. Thank you.

9. Presentation of JICA Project Team - by Mr. Hideo NAGAO, Team Leader

9.1) Outline of 5th Term Work Plan (April 2018 to Sep 2018)

Mr. Nagao gave a brief progress report or summary of accomplishments of the 4th Term Work Plan (Oct. 2017 – Mar. 2018). These are same as enumerated in the presentation of Mr. Doroy (see Agenda 6).

For the 5th Term, the activities and corresponding work plan to attain the project outputs are enumerated below:

Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

	Activity	Work Plan
1.1	Assist in conducting seminars/OJTs on road maintenance management thru Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for road maintenance.	1. Monitor the activities of road maintenance and follow-up seminars. 2. Submit evaluation and analyses of output of sustainability reports 3. Assist in the enhancement of knowledge and skill of DPWH engineers in all ROs and DEOs. 4. To provide list of equipment/tools for road routine maintenance. 5. To implement field trial of routine maintenance using the new equipment.
1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs.	Pilot projects in 2018 – 10 ROs (CAR, I, II, III, IV-A, IV-B, VI, VII, XI and XIII) 1. Assist implementation of pilot projects 2. Assist in 3-day field trainings (lecture, actual field training and discussions) 3. To monitor pilot project. 4. To assist in the selection of pilot projects in 2018
1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	1. Continue monitoring and evaluation of road maintenance in ROs/DEOs continuously. 2. Continue conducting meetings of CWG on road maintenance/road slope.

1.4	Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manual/guidebook. 2. Develop new manual on "Road Slope Protection". 3. Revise the Pocketbook on routine maintenance.

Mr. Nagao further explained above activities by flow chart.

Output-2: Capability of concerned engineers of all Regional Offices/District Engineering Offices on bridge Maintenance management is enhanced.

	Activity	Work Plan
2.1	Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for bridge maintenance.	1. Monitor activities of bridge maintenance and follow-up seminars. 2. Submit evaluation and analysis of output of sustainability reports 3. Assist the enhancement of knowledge and skills of DPWH engineers in all ROs/DEOs. 4. Provide list of equipment/tools for bridge maintenance.
2.2	Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.	1. Conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges (Mindanao area). 2. Check BMS bridge condition inspection data in all Regional Offices for verification of the accuracy. 3. Assist Echo-Training in Luzon area. 4. Assist actual bridge engineering inspection
2.3	Assist in implementing pilot projects on bridge repair and relevant OJTs.	Pilot projects in 2018 – 9 ROs (CAR, I, II, NCR, IV-A, VI, VIII, XII, XIII) 1. Assist in implementation of pilot project. 2. Assist the 3-day field trainings (Lecture, Actual Field Training, and Discussion). 3. Assist site selection of pilot projects in 2018 4. Monitor Pilot Projects.
2.4	Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	1. Continue monitoring and evaluation of bridge maintenance in ROs/DEOs continually. 2. Continue to hold meetings of CWG on bridge maintenance/ bridge repair.
2.5	Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manuals/ guidebooks. 2. Revise Bridge Repair Manual

Mr. Nagao further explained the detailed activities for bridge maintenance by means of flow chart.

Output-3: Capability of concerned engineers of all ROs/DEOs in target Regions (II, III, VII, VIII and XIII) on Special Bridge maintenance management is enhanced.

	Activity	Work Plan
3.1	Develop special bridge maintenance management manual.	1. To issue Department Order 2. Prepare printing of manual
3.2	Conduct seminars/OJTs on special bridge routine maintenance management for concerned engineers of target ROs/DEOs.	1. Conduct OJT on Special Bridge Maintenance Management in RO XIII.
3.3	Assist conducting seminars/OJTs on special bridge inspections for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	1. Conduct field training on Special Bridge Inspection in Mindanao Area. 2. To assist echo-training in Luzon area and Visayas area
3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	1. RO-II (Magapit Bridge) – Implementation of pilot project and conduct OJT 2. RO-III (Bamban Bridge) – Implementation of project and conduct OJT. 3. RO-VII (1st Mandaue-Mactan Bridge) – Implementation of project 4. RO-XIII (Diosdado Macapagal Bridge) – Monitoring and evaluation.
3.5	Monitor and evaluate situation of special bridge inspections by ROs/DEOs.	1. Monitoring and evaluation special bridge maintenance in ROs/DEOs continually. 2. Hold meetings of CWG on special bridge maintenance.
3.6	Review special bridge inspection manuals developed in Phase-II and make necessary revisions.	1. Review status of utilization of manuals/guidebook continually. 2. Revise Special Bridge Inspection Manual

Mr. Nagao further explained the detailed activities for bridge maintenance by presenting a flow chart.

Next, Mr. Nagao explained details of Field Training on Bridge Engineering Inspection/Load Rating/Special Bridge Inspection in Mindanao Area, as follows:

1. Duration:
   3-days for Bridge Engineering Inspection & Load Rating
   2-days for Special Bridge Inspection
   2-days for Load Rating
2. Venue
   RO-XI Training Room
3. Participants (Mindanao Area Region)
   5 RO (IX, X, XI, XII, XIII)
   RO – 4 Engineers (2 - BMS Coordinator, 1 - Bridge Designer, 1 – QAHD)
4. Trainers
   CWG Members, NDT Trainers, Bridge Engineers (BOD)

5. Schedule
   Apr 10-17, 2018
   (Dry Run Apr 9, 2018)
6. Action to be taken after field training
   - RO to conduct Re-Echo training to Accredited BMS Inspectors of DEO.
   - RO to conduct Actual Engineering Inspection and Special Bridge Inspection.

Output 4 was explained by Mr. Nagao as follows:

Output-4: Database system to be utilized for road and bridge maintenance management is developed.

	Activity	Work Plan
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Completed
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	Completed
4.3	Develop the database system based on the basic plan.	Completed
4.4	Enter necessary data and make trial operations on the system at model ROs	Completed
4.5	Improve the system in consideration of the results of trial operations at model RO.	Review and improve system.
4.6	Prepare relevant manuals including operation manner.	On-going
4.7	Conduct seminars on the database system and its relevant manuals.	Schedule 1st seminar: May 2018 2nd seminar: July 2018

Ending his report, Mr. Nagao announced the following supporting activities under the 5th work plan:

1. 3rd Batch Japan Training
   Objective: To study Special bridge maintenance
   To practice bridge and road maintenance
   To visit road and bridge construction and maintenance project site.
   Schedule: Sep 2 – 15, 2018
   Participants: 7 Engineers (TCP-III Counterparts)

2. Scholarship in Japan
   Number: 2 Engineers from TCP Counterparts
   Schedule: 2 years (April 2019 – 2020)
   Interview: August, 2018

3. Publicity Activity
   Update the project activity report/news in the JICA and DPWH websites.

4. Project Monitoring
   JICA and the DPWH shall monitor the progress of the Project through the Monitoring Sheets. Monitoring Sheets are reviewed every six (6) months.

9.2) Introduction of the Road Slope Protection Manual

Mr. Nagao introduced final draft of road slope protection manual. It is composed of nine chapters as follows:

- Chapter 1 - Introduction
- Chapter 2 - Soil Classification And Modulus
- Chapter 3 - Destabilization Factor On Road Slope
- Chapter 4 - Road Slope Maintenance
- Chapter 5 - Selection Of Slope Protection Works
- Chapter 6 - Countermeasure For Soil Slope Collapse
- Chapter 7 - Countermeasure For Road Slip
- Chapter 8 - Countermeasure For Rock Slope Collapse
- Chapter 9 - Countermeasure For Other Slope Disasters/Failures

DPWH and JICA have developed a manual on road construction and maintenance management during the implementation of the JICA-Assisted Technical Cooperation Project (JICA-TCP), Phase I from 2007 to 2010. Whereas road slope failure is more often caused by heavy rainfall and typhoons in the Philippines, this time in JICA-TCP, Phase III, this Road Slope Protection Manual is developed, which focuses on road slope protection works as vital components in the maintenance management of the national roads and bridges.

This manual has revised the Road Construction and Maintenance Guidebook except for Chapter 4 (Pavement) Chapter 7 (Road Safety) of the Road Construction and Maintenance Guidebook developed under TCP-I and II, and added a new method of construction of road slope protection technology in the manual.

Mr. Nagao explained the contents of each chapter and expressed hope that the JCC will approve the manual.

9.3) Introduction of Routine Maintenance Manual for Special Bridge

Mr. Nagao introduced the Routine Maintenance Manual for Special Bridge. He explained that since it needs more advanced technology and substantial amount of cost to perform the inspection and maintenance of Special bridges, in terms of preventive maintenance, the manual was developed.

Although the manuals created so far are sufficient for the maintenance of standard bridges, it was insufficient for the maintenance of large scale special bridges using special materials/attributes.
This manual deals with the peculiarities of special bridges in addition to the routine maintenance of standard bridges.

This manual is expected to keep the special bridge in good condition. Frequent minor repair of damage to bridges will give the impression to users of bridges and residents in the vicinity that maintenance is properly carried out.

Mr. Nagao explained that the manual will have three chapters and appendix as follows:

- Chapter 1 - Introduction
- Chapter 2 - Types of Defects and Causes
- Chapter 3 - Bridge Routine Maintenance
- Appendix - Special Bridge Routine Maintenance

We have 105 special bridges nationwide as of April 2018. The type of bridges are PC box girder bridge, Steel truss bridge, steel arch bridge extradosed bridge, able stayed bridge and suspension bridge based on records of BMS.

Because special bridge is a very huge and complicated structure, if some elements of bridge are damaged, It's very difficult to repair. So therefore, we have to maintain it properly.

As shown below, TCP III prepared a budget for the routine maintenance of special bridges for 2019 based on the types of routine maintenance activities required for each bridge type. It is hoped that DPWH will include it in the 2019 budget.

Region	Number of Special Bridge	Budget in 2019
CAR	9	9,800,000
NCR	5	6,300,000
I	2	5,300,000
II	17	25,200,000
III	4	4,300,000
IV-A	1	700,000
IV-B	3	1,500,000
V	7	4,400,000

Region	Number of Special Bridge	Budget in 2019
VI	9	9,300,000
VII	3	8,200,000
VIII	14	19,100,000
IX	7	4,800,000
X	7	4,900,000
XI	3	2,000,000
XII	2	1,800,000
XIII	12	14,080,000
Total	105	122,080,000

10. Discussions of Issues and Comments

Usec Sadain	We would like to request for few days to go over the contents of the two manuals, after which we shall submit our comments, proposed revisions for finalization. By early May, the two manuals maybe added to the 16 manuals being used by the department.
Usec Sadain and Engr. Jimenez	For the 2019 proposed budget for routine maintenance of special bridges amounting to P122 million will be included in the proposed 2019 maintenance budget.
Mr. Yamada	How are the manuals being utilized by DPWH in the field?
Mr. Nagao	As you know, we have already implemented TCP I and II, and now we are in TCP III. Almost all of the counterparts already know how to maintain roads and bridges. Now in TCP III, we have 90 young engineers as counterparts. In this project, DPWH and JICA agreed on how to train young engineers in other regions. The young counterparts, senior counterparts and JICA Team are training the young engineers in the use of the manuals. The trained engineers are the ones disseminating the new technologies in their respective offices.
Engr. Jimenez	In addition, the training includes lectures and actual training since they are conducting training using on-going pilot bridge repair and pilot road slope protection projects.

Mr. Yamada	Regarding the special bridge maintenance manual, I can see that the equipment required are basic equipment. I believe that all DEOs have these equipment already. For the Road Slope Protection Manual, we should try to include only the technologies that are used globally.
PM Doroy	Yes, we will consider that. Regarding the new technologies, we have requested the BRS to facilitate the approval of specifications and pay item numbers covering new pay items of works.
Dir. Tagudando	Regarding the rockfall protection, we have finished the evaluation and the new pay item is for signature already. For the other pay items, please submit the references and publications for our consideration and evaluation.
Mr. Yamada	In previous meeting we encountered issue on participation of CWG members, do we still encounter that issue?
PM Doroy	Actually we issued memos to the RDs to prioritize the participation of CWG members in all activities of the TCP. Now, I appeal again to the RDs and ARDs present in today's meeting to allow their counterparts to be assigned or be involved in the implementation of pilot projects.
Usec Sadain	Mr. Yamada, rest assured that as what we have done in TCP I and II, the DPWH will strengthen and emphasize not only to the CWG and TWG memberships but all engineers of the department in utilizing the manuals. For the special items, we will have them registered in PCMA, once the specifications are approved.
ARD Zenaida Tan of RO XI	We commit the availability of Engr. Alvin Cabueñas to TCP III activities. We will allow him to share his expertise to other engineers.
Carlito Lapuz – representative of RD Tabacon of RO VIII	We always allow our CP to attend TCP III activities
RPM Jamito	Based on the observation of Mr. Nagao on the validation of bridge condition data of BMS, there is need for DPWH to strengthen our data gathering process/system to make data accurate.
Engr. Jimenez	We will request Mr. Nagao for advice and recommendations on how to improve the bridge condition survey manual.
PM. Doroy	Last year, the procurement of one BIV resulted in failed bidding. According to BOE, they have started the procurement of a replacement equipment that can be used not only for bridge inspection. For the road maintenance equipment, the procurement is targeted in the 2nd quarter. By the 3rd quarter or 4th quarter, we can use it in the pilot training.

PM Doroy	Mr. Yamada, may I ask about our request for funding and technical assistance in the conduct of bridge condition and engineering inspection of Diosdado Macapagal Bridge due to its abnormal vibration in the superstructure?
Mr. Yamada	We are still considering the request and will reply to DPWH soon.
Dir. Llanes	In relation to the proposed budget of P122 million for special bridge maintenance, may I know who's office will submit request for inclusion in the 2019 budget. We would like to remind that the budget should be spent completely in 2019 since we are now in the Cash-Based Budgeting System. This should be considered in preparing the budget.
Engr. Jimenez	Are we confident enough to do the engineering inspections starting in 2019?
Mr. Nagao	We completed the trainings for engineering inspections. Luzon area can do engineering inspection by 2019, while Visayas and Mindanao regions can also do the inspection since they have operational BIVs.
Engr. Jimenez	Funding for engineering inspections will be in 2019 as part of BMS funding. May we request the TCP to estimate the funds needed including the transfer-to-transfer cost of BIVs.
Mr. Nagao	We will try to prepare the estimates including costs for use of BIVs.
RPM Naboye	In my observation, the budget for pilot bridge repair projects are small, so I try to reach out and coordinate with the BMS coordinators and CWG members in my area. I found out that they receive partial allocations for bridge repairs. In my opinion the BMS bridge experts cannot concentrate on their expertise because of many projects and loads. Because of this most budgets are used only on repair of approaches and asphalt overlay. They did not introduce other types of bridge repair since they cannot inspect without BIV and they only see the top of bridges.
Usec Sadain	Give us the names of the DEs concerned so we can communicate with them about these issues. This is one serious matter, since the intension of the management is to expand the coverage of TCP not just in the pilot regions. We will make sure that other regions utilize the manuals and new technology. Please discuss these issues some more with PM Doroy
Asec Reyes	Please submit the list of recently completed projects of TCP so that we can see where the new pay items are used. The output of TCP will be used for accreditation and approval of new pay items.

11. Approval of Work Plan and Monitoring Sheet, Road Slope Protection Manual and Special Bridge Maintenance Manual

The work plan and monitoring sheets were signed by DPWH and JICA. (Manuals under review)

12. Closing Remarks by Asec Reyes

I would like to thank everyone for participation to the 5th JCC meeting. As per reports submitted today, the target accomplishment has been fully achieved in accordance with the Work Plan.

Thanks to JICA experts. I believe that the enhancement of the capability of DPWH engineers on road and bridge maintenance fully supports the objective of asset preservation. We appreciate the development of two new technical manuals.

Based on the programs of the present administration, we can build more bridges, roads, and other infrastructure projects wherein future maintenance activities will be done properly through the knowledge learned through the project. On behalf of Sec. Villar, I express appreciation for the support of JICA to the project.

13. The meeting was adjourned at 12:00 PM

Nothing Follows

Prepared by:

Rodrigo A. Yago
JICA TCP III Asst. Engineer (Bridge)

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Aristarco M. Doroy
Project Manager, TCP III
Asst. Director, BOC

MINUTES OF 6TH JOINT COORDINATING COMMITTEE MEETING

August 7, 2018 Tuesday @ 8:30 AM to 11:45 AM
Operations Room, 2nd Floor, DPWH Central Office, Manila

A. Attendance:

1. Honorary Members from Japan Side (4):

YAMADA, Tetsuya	Senior Representative	JICA Philippine Office
SHIBATA, Atsushi	Representative	JICA Philippine Office
SEGAWA, Keita	Representative	JICA Philippine Office
Leah Peñarroyo	Section Chief	JICA Philippine Office

2. Honorary Members from JICA TCP Team (4):

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority (None)

3.2 Members of the DPWH-Joint Coordinating Committee (JCC) (17):

Gilberto S. Reyes	JCC Vice-Chairperson	Assistant Secretary for Technical Services
Aristarco M. Doroy	JCC Member, Project Manager & Asst. Director	Bureau of Construction
Ma. Visna N. Manio	JCC Member, Deputy Project Manager	Bureau of Construction
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Medmier Malig represented by ARD Jonathan A. Araullo	JCC Member and Director	Bureau of Quality and Safety
Ma. Nieva De La Paz represented by Ralph Kawaling	JCC Member and Director	Information Management Service
Toribio Noel L. Ilao represented by ARD Amador A. Andrada	JCC Member and Director	Bureau of Equipment
Nerie D. Bueno represented by Arnold Dacusag	JCC Member & Regional Director	CAR
Allan S. Borromeo represented by ARD Joselito B. Caballero	JCC Member & Regional Director	Region XI
Ronnel M. Tan (OIC) represented Baltazar F. Lavarias	JCC Member and Regional Director	Region I
Pol M. Delos Santos (OIC) represented by ARD Nomer Abel P. Canlas	JCC Member and Regional Director	Region XIII
Samson L. Hebra represented by ARD Yolanda L. Tangco	JCC Member and Regional Director	Region IV-A

Wenceslao M. Leano, Jr. represented by Div. Chief Mr. Zamora	JCC Member and Regional Director	Region VI
Cayamombao D. Dia (OIC)represented by Div. Chief Mr. Torrefranca	JCC Member and Regional Director	Region IX
Zenaida T. Tan represented by ARD Efren Berba	JCC Member and Regional Director	Region X
Basir M. Ibrahim represented by ARD Rosie Javate	JCC Member and Regional Director	Region XII

3.3 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers (9):

Edwin C. Matanguihan	Asst. Director	Bureau of Design
Reynaldo P. Faustino	Asst. Director	Bueau of Research and
Teofila SF. Borlongan	Engineer IV	Bureau of Maintenance
Carlos P. Ebora	Div. Chief, QCD	Bureau of Quality and Safety
Ezekiel Bravo	Engineer III	Bureau of Research and Standards
Nenita R. Jimenez	Div. Chief, DPD	Planning Service
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI
Ma. Soledad Q. Balisi	Coordinator	DPD, PS

3.4 CWG Members (14)

Ronalyn Ubina	Asst. District Engineer	CAR
Ariel S. Amor	Engineer II	NCR
Dexter Cavaynero	Engineer II	Region I
Recy Calma	Engineer II	RO III
Violeta Liwanag	Engineer II	RO III
Jane F. Cruz	Engineer II	Region IV-A
Salvador Marc R. Botin	Engineer II	Region V
Victor P. Diono	Engineer II	Region VI
Adelina Gomez	Engineer III	RO VIII
Jeric Vincent T. Ruiz	Engineer II	Region IX
Jessie T. Tutor	Engineer II	Region X
Paul Daniel R. Salas	Engineer II	Region XII
Danilo Pioquinto	Asst. Div. Chief, QAHD	RO XIII
Ruel Nazareno	Engineer III	RO XIII

B. Minutes of Meeting:

1. Registration 8:30 to 9am

2. Playing of Opening Prayer, Philippine and Japan National Anthems from 9am to 9:15am.

(Emcee and moderator during the meeting – BOM AD Ma. Visna N. Manio, Deputy Project Manager)

3. Opening Remarks and Message by Asec. Gilberto S. Reyes

- Asec Reyes informed that Sec Villar and Usec Sadain cannot attend today's meeting since they are having DPWH directors meeting in Tacloban City. Sec. Villar appreciates GOJ thru JICA and participants in attending today's meeting. As the DPWH aim to preserve road and bridge assets, the gains obtained under the TCP program fully supports its aims. The challenge now is how to sustain the program after completion in Feb 2019.

4. **Introduction of Participants**
   - The Project Manager, Mr. Doroy introduced the participants to the meeting. A total of 48 participants attended the meeting.

5. **Report on TCP Activities – by Mr. Aristarco Doroy**
   - For benefit of other participants not familiar with the program, PM Doroy gave an overview of TCP I, TCP II and TCP III.
   - The following activities have been completed by TCP III as of July 2018:
     - Conducted 5 JCC meetings
     - Conducted 22 TWG monthly meetings
     - Held 2 field training meetings
     - Conducted 2 TWG/CWG workshops
     - Conducted 57 meetings of various CWGs
     - Repaired 4 special bridges
     - Completed pilot projects on repair of standard bridges
     - Completed pilot projects on road slope protection
     - Conducted 37 OJTs and field trainings
     - Undertaken review of bridge condition data and conducted bridge engineering inspections
     - Conducted demonstration on use off drone for bridge inspection and road slope protection survey
     - Monitored completed pilot projects
     - Held Japan training for CWG members
     - Conducted observation trip in Japan
     - Conducted third country training in Cambodia
     - Developed two new manuals

     (Note: refer to Mr. Doroy's Powerpoint presentation for the detailed report)
   - Mr. Doroy enumerated the following issues and concerns:
     1) Delayed Implementation of Pilot Projects, affecting the scheduled On the-Job Trainings for Road Slope Protection and Bridge Repair Works in some regions;
     2) There are regional offices with non-operational/functional Non-Destructive Test Equipment/tools which would hinder the use of NDT in the conduct of proper bridge engineering inspection in accordance with the established technical manual;
     3) Late conduct of bridge engineering inspection and special bridge condition inspection by various regional offices as required under JICA-TCP III to determine regional capability of such undertaking;
     4) Lack of awareness in the DPWH implementing Offices technical personnel on the availability of various technical manuals pertaining to the road and bridge maintenance management that provide them useful reference in the mandated function and responsibilities of the RO/DEO to effectively manage and maintain our existing road network for its worthiness and safety to the travelling public;
     5) Availability of operational/functional maintenance equipment for effective and timely implementation of maintenance works existing road network for the safety of the travelling public.
     6) Supervision of Pilot projects in some regions were not assigned to CWG members in the Regional Office;
     7) Monitoring of completed and on-going Pilot projects through field inspection by the CWG members are not done regularly;
     8) Submission of monthly status report for pilot projects were not complied by some Regional Offices.
   - To address above issues and concerns, Mr. Doroy recommended the following:
     1) DPWH Regional and District Offices should facilitate the expeditious conduct of DED and Procurement process for the immediate implementation of the JICA –TCP III
     2) Pilot Projects;

3) The Regional offices in coordination with BRS,BOM and BOE should promptly initiate the repair or replacement of non-operational/functional NDTs equipment/tools to ensure the availability of the appropriate equipment in the conduct of proper bridge engineering inspection for proper and effective maintenance management for our existing road network;
4) The Regional Office should provide full support and resources to the CWG/BI and those who participated the training in the conduct of actual bridge engineering inspection and special bridge condition inspection required under JICA-TVP III to determine regional capability of such undertaking; and
5) The Regional/District Engineering Offices in coordination/cooperation of BOM should initiate the conduct of awareness training program for their technical personnel on the availability of technical manual and its usage for proper and effective maintenance management for Highway and bridge construction and maintenance management;
6) The RO/DEO in coordination with the BOM and BOE should promptly initiate request for funding for the procurement of the needed maintenance equipment in their respective region/district to ensure its availability for effective and timely implementation of maintenance works on our existing road network for the safety of the travelling public.
7) Assign the CWG members as Project Engineers/Inspectors on Pilot projects to give trained CWG members opportunity to gain first-hand experience on bridge repair and road slope counter measures;
8) Allow CWG members to monitor pilot projects by conducting regular field inspections schedule to assess the effectiveness of the technology and work method applied; and
9) Submit regularly the monthly status report for pilot projects on time officially in the prescribed format.

6. Message of Mr. Tetsuya YAMADA, JICA Senior Representative

- Mr. Yamada thanked everyone present in the meeting most especially Mr. Doroy for his comprehensive report.
- A month or two ago, Japan lost about 200 persons due to floods and rains. The event reminded him of the importance of the TCP program because we need to be able to deliver services to affected areas when calamities occur.
- We also have rapid growth of infrastructure in the Philippines. Just recently we inaugurated the opening of Phase II of Plaridel Bypass Project in Bulacan and at the same time held groundbreaking ceremony for the widening of the Plaridel Bypass from 2 to 4 lanes. We are also in the planning stages of the proposed 4th Cebu-Mactan Bridge. With the rapid development, we are in turn challenged to provide timely and quality maintenance of these assets.
- We have to enhance our maintenance capabilities. As a support, we will also send engineers for further education in Japan.
- As presented by Mr. Doroy, we have some issues to be resolved. We are now turning the last corner of our project activities. It is now high time to plan for the sustainability of the program in order to institutionalize it in the DPWH.

7. Amendment of Manuals and Development of 2 new Manuals – Reported by Mr. Nagao

- Mr. Nagao reported that there will be amendment by way of Addendum to the 2014 Bridge Repair Manual and the Special Bridge inspection Manuals. These are subject for approval by the JCC during this meeting. Copies of the addenda are included in the meeting materials provided today.
- The two new manuals which were approved by the JCC during the 5th JCC meeting will be printed for turn over to DPWH later on.

8. Introduction of Database System – Reported by Mr. Miyakawa

- Mr. Miyakawa introduced the development of the Database System to be utilized for road and bridge maintenance management by the DPWH. The system is officially called Maintenance Information System on Road Slope and Bridge Repair (MIRB).

- The system will be used:
  1) To be utilized for implementation of major maintenance work on road & bridge.
  2) To provide technical information on road & bridge maintenance work.
  3) To organize a filing system on road slope protection and bridge repair project.
  4) To collect road & bridge maintenance technical information.
  5) To enhance road & bridge maintenance technology.
  6) To be referred to during preparation for midterm maintenance plan and annual budget plan.
  7) To provide a system for effective road and bridge maintenance management.
- In order to develop the MIRB, three regional offices from Luzon (CAR), Visayas (RO VII) and Mindanao (RO XI) were selected as model regions.
- Mr. Miyakawa then explained the flowchart of MIRB.
- The outline of MIRB Database is consist of:
  1) Target projects are: a) Bridge Repair and, b) Road Slope Protection
  2) Inputs are: a) Basic project information including repair methods, related photographs and drawings and b) Detailed project information such as attribute-defects-repair method and, b) related photos.
  3) Outputs are: a) Project report, b) Project list, c) Drawings and Documents and, d) Photos (Before/During/After)
- The MIRB will be handed over to DPWH in January 2019. After turnover, OJTs on data inputting and use of MIRB will be held in RO I, II, III, NCR, IV-A, Iv-B, V, VI, VIII, IX, X, XII, XIII as part of the Sustainability Program in 2019. CWG on Database System members will be the speakers during the trainings in order to disseminate the system to all regional offices.
- Lastly, Mr. Miyakawa gave an interactive presentation of how the system actually function.

9. Presentation of JICA Project Team - by Mr. Hideo NAGAO, Team Leader

- For the 6th Term, the activities and corresponding work plan to attain the project outputs are enumerated below:

Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

	Activity	Work Plan
1.1	Assist in conducting seminars/OJTs on road maintenance management thru Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for road maintenance.	1. Monitor the activities of road maintenance and follow-up seminars. 2. Submit evaluation and analyses of output of sustainability reports 3. Assist in the enhancement of knowledge and skill of DPWH engineers in all ROs and DEOs. 4. To provide list of equipment/tools for road routine maintenance. 5. To implement field trial of routine maintenance using the new equipment.
1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs.	2018 – 10 ROs (CAR, I, II, III, IV-A, IV-B, VI, VII, XI and XIII) 1. Assist implementation of pilot projects 2. Assist in 3-day field trainings (lecture, actual field training and discussions) 3. To monitor pilot projects. 4. To assist in the selection of pilot projects in 2018 (10 projects)

1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	1. Continue monitoring and evaluation of road maintenance in ROs/DEOs continuously. 2. Continue conducting meetings of CWG on road maintenance/road slope.
1.4	Review manuals on road maintenance management and construction supervision developed and/or revised in Phase-II and make their necessary revisions	1. Review status of utilization of manual/guidebook. 2. Develop new manual on "Road Slope Protection". 3. Revise the Pocketbook on Routine Maintenance

Output-2: Capability of concerned engineers of all Regional Offices/District Engineering Offices on bridge Maintenance management is enhanced.

	Activity	Work Plan
2.1	Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommend list of equipment/tools for bridge maintenance.	4. Monitor activities of bridge maintenance and follow-up seminars. 5. Submit evaluation and analysis of output of sustainability reports 6. Assist the enhancement of knowledge and skills of DPWH engineers in all ROs/DEOs. 7. Provide list of equipment/tools for bridge maintenance.
2.2	Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.	1. Conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges (Mindanao area). 2. Check BMS bridge condition inspection data in all Regional Offices for verification of the accuracy. 3. Assist Echo-Training in Luzon area. 4. Assist actual bridge engineering inspection
2.3	Assist in implementing pilot projects on bridge repair and relevant OJTs.	2018 – 9 ROs (CAR, I, II, NCR, IV-A, VI, VIII, XII, XIII) 1. Assist in implementation of pilot project. 2. Assist the 3-day field trainings (Lecture, Actual Field Training, and Discussion). 3. Assist site selection of pilot projects in 2018 4. Monitor Pilot Projects.
2.4	Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	1. Continue monitoring and evaluation of bridge maintenance in ROs/DEOs continually. 2. Continue to hold meetings of CWG on bridge maintenance/ bridge repair.
2.5	Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Review status of utilization of manuals/ guidebooks. 2. Revise Bridge Repair Manual (Issue addendum)

Output-3: Capability of concerned engineers of all ROs/DEOs in target Regions (II, III, VII, VIII and XIII) on Special Bridge maintenance management is enhanced.

	Activity	Work Plan
3.1	Develop special bridge maintenance management manual.	1. DPWH to issue Department Order 2. Prepare printing of manual
3.2	Conduct seminars/OJTs on special bridge routine maintenance management for concerned engineers of target ROs/DEOs.	1. Conduct OJT on Special Bridge Maintenance Management in RO XIII.
3.3	Assist conducting seminars/OJTs on special bridge inspections for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	1. Conduct field training on Special Bridge Inspection in Mindanao Area. 2. To assist echo-training in Luzon area and Visayas area
3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	1. RO-II (Magapit Bridge) – Implementation of pilot project and conduct OJT 2. RO-III (Bamban Bridge) – Implementation of project and conduct OJT. 3. RO-VII (1st Mandaue-Mactan Bridge) – Implementation of project 4. RO-XIII (Diosdado Macapagal Bridge) – Monitoring and evaluation.
3.5	Monitor and evaluate situation of special bridge inspections by ROs/DEOs.	1. Monitoring and evaluation special bridge maintenance in ROs/DEOs continually. 2. Hold meetings of CWG on special bridge maintenance.
3.6	Review special bridge inspection manuals developed in Phase-II and make necessary revisions.	1. Review status of utilization of manuals/guidebook continually. 2. Revise Special Bridge Inspection Manual

Output-4: Database system to be utilized for road and bridge maintenance management is developed.

	Activity	Work Plan
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Completed
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	Completed
4.3	Develop the database system based on the basic plan.	Completed
4.4	Enter necessary data and make trial operations on the system at model ROs	Completed

4.5	Improve the system in consideration of the results of trial operations at model RO.	Completed
4.6	Prepare relevant manuals including operation manner.	Completed
4.7	Conduct seminars on the database system and its relevant manuals.	Completed: 1st seminar: July 19-20, 2018 held at DPWH CO 2nd seminar: July 26-27, 2018 held at DPWH CO 3rd seminar: August 2-3, 2018 held at DPWH CO

- TCP introduced new technologies on road and bridge maintenance. These are:
  1) Road and bridge inspection by drone (CAR, RO II and RO XII)
  2) Road slope protection systems such as active and passive protection systems, catch fences, erosion control mats, roving and cellular confinement systems
  3) Bridge repair including longitudinal expansion joints, CFS, CFP, epoxy coating/ injection/caulking, additional steel plates, epoxy type water proofing, underwater curing high flow epoxy grout, epoxy asphalt pavement
  4) Routine maintenance using epoxy coating, high pressure water blaster for cleaning of expansion joints and deck slabs, touch-up paints, polymer mortars
  5) Introduction of new materials and equipment for routine maintenance of roads such as cold asphalt for patching, road heater, plate compactor and crack sealer.
- Mr. Nagao also discussed three important issues as follows:
  1) Overloading:
     - Bridges are affected by overloaded trucks.
     - Overloading should be prohibited on bridges, otherwise, bridges service life will be shortened.
  2) Quality:
     - We already have Bridge Repair Manual which was developed by JICA TCP-II. The DO directing use of the manual was already issued. DPWH engineers and contractor should follow the Application Criteria, Work Sequence etc.
     - However, there are some correct procedure of repair method. For instance, CFS and CFP are good material for repairing and strengthening of damaged bridges In particular, deteriorated but repairable RCDG bridges for repair. So, CFS and CFP should be applied to the structure using appropriate procedure. Otherwise, condition of our bridges will worsen.
  3) Concrete Structure (Alkali Silica Reaction or ASR)
     - ASR was found column and foundation in the Marcelo Fernan Bridge, particularly Pier 10 and Pier 11.
     - Some aggregates react adversely with the alkalis in cement to produce a highly expansive alkali-silica gel. The expansion of the gel under moist conditions leads to cracking and deterioration. The cracking occurs through the entire mass of the concrete. Most cracks form a grid or hexagonal patterns.
     - Since the Philippine is in volcanic area, the aggregates have a possibility of Alkali aggregate reaction. Concrete bridges may be affected by ASR nationwide. It is recommended to test and treat structures exhibiting ASR.
- Furthermore, Mr. Nagao discussed the outline of the addenda to the Bridge repair Manual and Special Bridge Inspection Manuals, these are:
  1) Addendum to Bridge Repair Manual Bridge Repair Manual (2nd Edition)
     4-4 CARBON FIBER SHEET BONDING TO DECK SLAB - Revision of last sentence in 2nd paragraph of Sub-Section 4-4-2 to avoid misunderstanding in interpretation
     4-11 EPOXY TYPE WATERPROOFING ON DECK SLAB - Additional new repair method in accordance to DWPH Specs Item 628(1)

5-5: Carbon Fiber Sheet/Plate Bonding to Concrete Girder - Additional Notes on Repair of RC Box Girder

Chapter 8 – Repair of Bridge Expansion Joint: Additional Notes on Installation of Longitudinal Expansion Joint

2) Addendum to Special Bridge Inspection Manual (2nd Edition)

Revised Table 1-1 Types of Special Bridge Inspections: Additional type of inspection– Unmanned Aerial Vehicle (UAV) / Drone Inspection for Suspension Bridge, Cable Stayed Bridge

PC BOX Girder Bridge Revised and Additional Figures: Additional Inspection of Viewing Deck

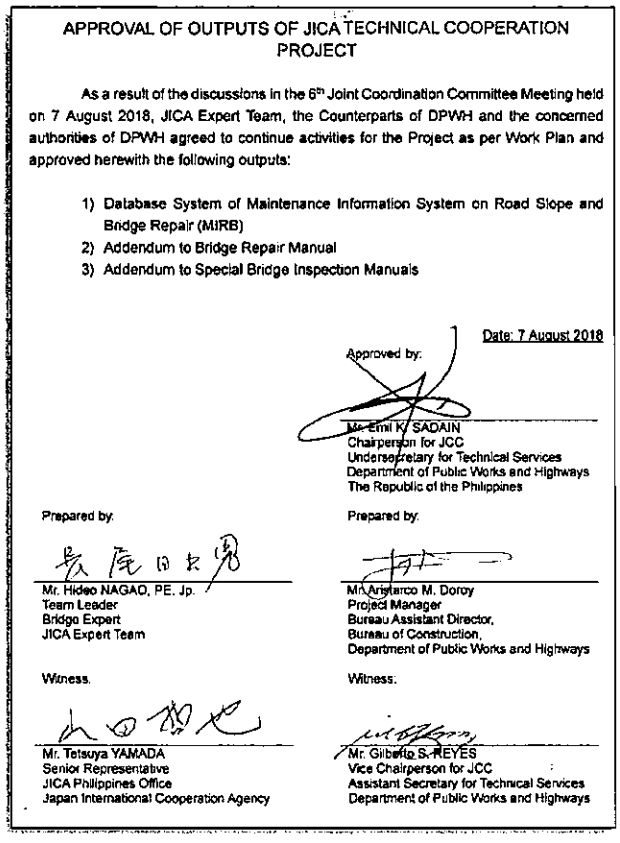
Additional Chapter 9 - Unmanned Aerial Vehicle (UAV) / Drone Inspection (Type 7) for Suspension Bridge (SB) and Cable Stayed Bridge (CSB)

Additional Appendix K - Unmanned Aerial Vehicle (UAV) / Drone Inspection Form (Type 7) For Suspension Bridge (SB) and Cable Stayed Bridge (CSB)

- Lastly Mr. Nagao explained the flowcharts of how each of the four outputs of TCP will be attained.

10. Approval of Outputs of the TCP

- As a result of the discussions in the 6th Joint Coordination Committee Meeting , the JICA Expert Team, Counterparts and the authorities of DPWH agreed to continue activities for the Project as per Work Plan and approved the following outputs:



APPROVAL OF OUTPUTS OF JICA TECHNICAL COOPERATION PROJECT

As a result of the discussions in the 6th Joint Coordination Committee Meeting held on 7 August 2018, JICA Expert Team, the Counterparts of DPWH and the concerned authorities of DPWH agreed to continue activities for the Project as per Work Plan and approved herewith the following outputs:

1) Database System of Maintenance Information System on Road Slope and Bridge Repair (MIRB)
2) Addendum to Bridge Repair Manual
3) Addendum to Special Bridge Inspection Manuals

Date: 7 August 2018

Approved by:

Mr. Emil K. SADAIN
Chairperson for JCC
Undersecretary for Technical Services
Department of Public Works and Highways
The Republic of the Philippines

Prepared by:

Mr. Hideo NAGAO, PE. Jp.
Team Leader
Bridge Expert
JICA Expert Team

Prepared by:

Mr. Aristarco M. Doroy
Project Manager
Bureau Assistant Director,
Bureau of Construction,
Department of Public Works and Highways

Witness:

Mr. Tetsuya YAMADA
Senior Representative
JICA Philippines Office
Japan International Cooperation Agency

Witness:

Mr. Gilberto S. REYES
Vice Chairperson for JCC
Assistant Secretary for Technical Services
Department of Public Works and Highways

1) Database System of Maintenance Information System on Road Slope and Bridge Repair (MIRB)
2) Addendum to Bridge Repair Manual
3) Addendum to Special Bridge Inspection Manuals

(NOTE: Copy shown is the one approved by Usec Sadain after the meeting)

11. Discussions of Issues and Comments

- Mr. Doroy appealed to the RDs and ARDs to please continue to support TCP activities especially on early implementation of the pilot projects. Furthermore he also requested them to allow the C/Ps to be involved in actual implementation of the projects.
- On the reporting of monthly progress, please require your C/Ps to submit monthly status reports on time.
- Ms. Leah Peñarroyo, JICA Phils Section Chief requested for report on the progress of the procurement of weigh-in motion equipment. Asec Reyes and DPM Manio informed that BQS is not

handling the operation of the weighing equipment and facilities. There is an inter-agency memorandum agreement of in implementation of overloading.

- On the request of DPWH for technical assistance to conduct engineering inspection and study of Diosdado Macapagal Bridge, Mr. Yamada informed that JICA is still studying the findings in the latest report of Mr. Nagao to determine course of action to be taken.

12. There being no more agenda to be discussed, the meeting was adjourned at 11:45 AM

Nothing Follows

Prepared by:

Rodrigo A. Yago
JICA TCP III Asst. Engineer (Bridge)

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Aristarco M. Doroy
Project Manager, TCP III
Asst. Director, BOC

MINUTES OF 7TH JOINT COORDINATING COMMITTEE MEETING (LAST MEETING)

February 1, 2019 Friday @ 8:30 AM to 11:45 AM
Operations Room, 2nd Floor, DPWH Central Office, Manila

A. Attendance (55):

1. Honorary Members from Japan Side (5):

ICHIKI, Shintaro	2nd Secretary	Embassy of Japan
KAWABUCHI, Kiyo	Sr. Representative	JICA Philippine Office
SHIBATA, Atsushi	Representative	JICA Philippine Office
Leah Peñarroyo	Section Chief	JICA Philippine Office
Carla Bautista	Program Officer	JICA Philippine Office

2. Honorary Members from JICA TCP Team (5):

NAGAO, Hideo	Team Leader, Bridge Maintenance.	DPWH JICA-TCP III
MIYAKAWA, Teruyuki	Dep. Team Leader, Database System	DPWH JICA-TCP III
KANGAWA, Masaki	Road Maintenance Expert	DPWH JICA-TCP III
MATSUBAYASHI, Sachiyo	Monitoring Officer / Coordinator	DPWH JICA-TCP III
Rodrigo Yago	JICA TCP Support Staff	DPWH JICA-TCP III

3. Honorary Members of the Philippine Side: NEDA and DPWH

3.1 National Economic Development Authority (2)

Danela De Vera	Representative	NEDA Central Office
Sherrielyn Lagahit	Representative	NEDA Central Office

3.2 Members of the DPWH-Joint Coordinating Committee (JCC) (22):

Emil K. Sadain	JCC Chairman	Undersecretary for UPMO Operations and Undersecretary for Technical Services
Aristarco M. Doroy	JCC Member, TCP Project Manager & Asst. Director	Bureau of Construction
Ma. Visna N. Manio	JCC Member, TCP Deputy Project Manager & Asst. Director	Bureau of Maintenance
Constante A. Llanes, Jr.	JCC Member & Director	Planning Service
Medmier Malig	JCC Member and Director	Bureau of Quality and Safety
Walter R. Ocampo	JCC Member and Director	Bureau of Construction
Ernesto S. Gregorio, Jr.	JCC Member and Director	Bureau of Maintenance
Reynaldo G. Tagudando	JCC Member and Director	Bureau of Research and Standards
Toribio Noel Ilao	JCC Member and Director	Bureau of Equipment
Juby B. Cordon	Assistant Director	NCR
Charles C. Sokoken	Representative of Director	CAR
Ronnel M. Tan	Director	RO I
Alexander D. Nola	Asst. Regional Director	Region II
Carina Gazo	Representative of Director	Region III
Wilfredo S. Mallari	JCC Member and Regional Director	Region IV-B
Virgilo C. Eduarte	JCC Member and Regional Director	Region V
Nerie D. Bueno	JCC Member and Regional Director	Region VIII

Khaddafy D. Tangol	Asst. Regional Director	Region IX
Zenaida T. Tan	JCC Member and Regional Director	Region X
Allan Borromeo	JCC Member and Regional Director	Region XI
Rosie Javate	Assistant Regional Director	Region XII
Pol M. de Los Santos	JCC Member and Regional Director	Region XIII

3.3 Members of the DPWH-Technical Working Group (TWG) and Regional Project Managers (8):

Reynaldo P. Faustino	Asst. Director	Bureau of Research and Standards
Teofila SF. Borlongan	Engineer IV	Bureau of Maintenance
Nenita R. Jimenez	Div. Chief, DPD	Planning Service
Rosario C. Calves	Regional Project Manager	RO VII
Rowena P. Jamito	Regional Project Manager	RO XI
Elsa T. Naboye	Regional Project Manager	CAR
Egan Louis J. Fajardo	Application Maintenance Section	IMS
Ma. Soledad Q. Balisi	Coordinator	DPD, PS

3.4 CWG Members and Others (13)

Blesilda S. Ramos	Engineer IV, Div. Chief	BOD
Justino Jaime T. Surot, Jr.	Engineer III, Chief of BMS	PS
Ronalyn Ubina	Asst. District Engineer	CAR
Dexter Cavaneyro	Engineer II	Region I
Violeta Liwanag	Engineer II	RO III
Jane F. Cruz	Engineer II	Region IV-A
Calvin D. Cadatal	Engineer II	Region IV-B
Mark Jerome C. Limpiado	Engineer II	Region IV-B
Adelina Gomez	Engineer III	RO VIII
Jessie T. Tutor	Engineer II	Region X
Paul Daniel R. Salas	Engineer II	Region XII
Danilo Pioquinto	Asst. Div. Chief, QAHD	RO XIII
Saturnino S. Torrefranca	District Engineer	RO IX

B. Minutes of Meeting:

(Emcee and moderator –Ma. Visna N. Manio, TCP Deputy Project Manager)

1. **Registration: 8:30 to 9am**
2. **Video of Opening Prayer, Philippine and Japan National Anthems from 9am to 9:15am.**
3. **Opening Remarks and Message by Usec Emil K. Sadain**

"Let me start by relaying the message of Sec. Villar congratulating and expressing heartfelt appreciation to GOJ for the strong support to the TCP program from 2007 to 2019, and the significant role of the program in helping DPWH in carrying out the mandate of the department in infrastructure.

We know that this 7th JCC meeting is the last meeting of TCP Phase III. In view of this, the department is now looking at succeeding undertaking particularly for some high-level infrastructure like tunneling. During the latest meeting with Ambassador Haneda with Secretary Dominguez of DOF, aside from discussions on the design of the Marikina-Pasig River Phase IV, it was also discussed for possible extension of TCP.

The department will continue the project through a sustainability program so that we can cascade the transfer of knowledge to all district engineers. We encourage the DEs to visit the DPWH website to see and download all the manuals produced by the TCP. Thank you so much."

4. **Introduction of Participants**
   - Project Manager Doroy introduced the participants to the meeting.

5. **Report on TCP Activities – by PM Doroy**
   - PM Doroy gave an overview of TCP I, TCP II and TCP III.
   - The following activities have been completed by TCP III as January 31, 2019:
     1) Conducted 6 JCC meetings
     2) Conducted 27 monthly meetings
     3) Held 2 field training preparation meetings
     4) Conducted 5 TWG meetings
     5) Conducted 68 meetings of various CWGs
     6) Repaired 4 special bridges
     7) Completed pilot projects on repair of standard bridges
     8) Completed pilot projects on road slope protection
     9) Conducted 55 OJTs, seminars and field trainings
     10) Conducted 15 re-echo trainings
     11) Undertaken review of 61 bridge condition data and conducted bridge engineering inspections
     12) Trained 2,479 engineers
     13) Conducted 5 demonstration on use of drone for br. inspection & road slope protection survey
     14) Monitored completed pilot projects
     15) Held Japan training for selected CWG members
     16) Conducted observation trip in Japan
     17) Conducted third country training in Cambodia
     18) Developed three new manuals and amended 2 technical manuals

   - PM Doroy enumerated the following issues and concerns together with recommended actions:

	Issue and Concern	Recommended Action
1.	There are some Pilot Projects which are still on-going mainly due to the delay in procurement, changes in design and late delivery of imported materials.	DPWH Technical/Counterpart Working Group (TWG/CWG) shall continue to monitor the progress of the on-going Pilot Projects on Bridge Repair and Road Slope Protection Works until completed to ensure adherence to plans, specifications and methodologies as prescribed in the approved Technical Manuals.
2.	Some Regional Offices have incomplete operational/functional as well as existing non-functional Non-Destructive Testing (NDT) Equipment/Apparatus needed in the conduct of proper bridge engineering inspection in accordance with the formulated Technical Manual.	- Regional Offices in coordination with the BRS should facilitate the immediate repair/replacement of non-functional NDT Equipment/Apparatus to ensure their availability in time for the conduct of bridge engineering inspection.
3.	DPWH Engineers lack the technical capability to analyze geological condition of road sections with slope failures.	Provide technical capability including design software to DPWH Engineers involved in the design of road slope protection works.
4.	Less attention is given to bridge repair (standard and special bridges)	Provide Annual Program for bridge repair (standard and special bridges), thus the formulated technical manuals for bridge repair will be utilized.

6. **Speech of Ms. Kiyo KAWABUCHI, Senior Representative of JICA Philippine Office**

"I arrived from Japan last October 2018. I am honored to be here in the very last JCC meeting of TCP Phase III. As reported by PM Doroy, the TCP has achieved tremendous outcome for the past years. This would not

be realized without your devotion, I appreciate your efforts. I would like to express my sincere gratitude to Sec Villar, Usec Sadain, Asec Reyes, PM Doroy, and Mr. Nagao for your strong leadership and devotion.

We understand that for the past 12 years, the quality infrastructure gained more attention from DPWH leadership and became its priority. DPWH's budget has gone up to P650 Billion in 2018 compared to P94 Billion in 2006. There is a strong sharp increase. Parallel to this, JICA also strengthened its contribution to DPWH. In 2007, JICA had a total of P11 Billion commitment and as of today, JICA has a total of P60 Billion worth of on-going projects, this is almost 5 times compared to years ago.

Under those concessionary loans, we have extended a variety of ODAs in recent years including master plans, for example the High Standard Highway Planning for 2010 with the 2nd phase to be launched soon as well as may FS and Detailed Engineering Design like the MMIP in 2018 and the dispatch of several experts.

The 12-year history of this TCP should be seen as part of our efforts to deliver a more improved and quality transport services to the people of the Philippines.

Even after the completion of this project, JICA is of course fully committed to the Build-Build-Build mantra of the current administration and shall maintain close relationship with the DPWH.

Two young engineers from DPWH will be sent to Japan this April under JICA grant assistance to study road and bridge engineering design. We hope that when they finish the study and come back to DPWH, they will contribute to the improvement of the capability of engineers to design by transferring the knowledge they gained.

Regarding the sustainability program, we appreciate very much the plan of DPWH to launch and start it right away and has already provided a budget for the two-year program.

As what Usec Sadain mentioned in his opening remarks, JICA is already considering our next technical cooperation endeavor."

6. Speech of Mr. Shintaro ICHIKI, 2nd Secretary of Embassy of Japan

"I am very pleased to join this last meeting of JICA TCP. On behalf of the GOJ, I would like to express my sincere gratitude to every one for investing time and efforts to this TCP Phase III for the last three years.

In Japan, infrastructure maintenance is a very big problem. Most of the infrastructure were constructed in the 1960s, and so the infrastructure is over 50 years old. Aside from construction, proper maintenance is one of the most important aspect of road transport safety. In the future, infrastructure will get old and degrade with constant use, as such we have to provide funds for monitoring and maintenance to extend its life longer.

This project is not only about exchange of technical knowhow, more importantly, the manuals that were developed should be utilized properly. I hope that this TCP will translate to better transportation and improved lives of the people."

7. Presentation of JICA Team

8a. Introduction of Revision of Pocketbook on Routine Maintenance –by Mr. Nagao

- With issuance of D.O. 41, series of 2016, the procedure for routine maintenance activities has been changed. This prompted DPWH to request JICA for revision of existing Pocketbook on Routine Maintenance.
- The purpose is to comply with D.O. 41, series of 2016 and deal with the latest trends in guidelines and technology. Also, the contents were simplified especially the Activity Standards to make it more comprehensible to end users.

- The revisions included changes in the procedures, checkpoints and photographs as well the addition of new equipment and materials. Examples of revisions were shown and explained afterwards.
- A Field Trial will be conducted February 26, 2019 at selected road section in South Manila DEO. The output of this activity will be included to the revised Pocketbook on Routine Maintenance.
- The equipment and material that will be used for demonstration are:
  - Road heater for asphalt patching
  - Plate Compactor
  - Joint Sealer Machine for cracking
  - Crack/Joints cleaner
  - Telehandler
  - Cold asphalt for emergency repair of potholes

8b. Final Project Report - by Mr. Nagao

- Mr. Nagao introduced the project and explained the title of project, composition of the teams, target regions, target participants and project locations.
- He also explained the overall goal, project purpose and the four outputs.
- JICA inputs included the dispatch of 10 Japanese experts, donation of 35 sets/units of tools and equipment
- Supporting activities included Japan training for 21 counterpart engineers, third country training for nine counterparts, visits to Japan by nine engineers to learn about improvement of road and bridge maintenance practices together with JICA, MILT, expressways companies, sending two engineers to study road asset management technology for two years, publication of 18 project activity reports and news on JICA website and four in DPWH website, and monitored project progress eight times and checked monitoring sheets every six months.
- Inputs by Philippine side included designation of eight core team members (JCC chairman, Asst JCC chairman, project manager, deputy project manager, regional area managers and full-time coordinator) and provision of 137 C/Ps assigned to the technical working group, counterpart working groups and monitoring teams, provision of office spaces in the central office and six selected regional offices.
- As discussed, the details of the outputs are as follows:

Output-1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.

	Activity	Output
1.1	Assist conducting seminars/OJTs on road maintenance management thru Sustainability Program for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for road maintenance.	1. To monitor the activities of road maintenance and follow-up seminars. 2. To submit evaluation and analyses of output of sustainability reports 3. To assist in the enhancement of knowledge and skill of DPWH engineers in all ROs and DEOs. 4. To provide list of equipment/tools for road routine maintenance. 5. To conduct field trial of routine maintenance using the new equipment (NCR). "We continued to follow-up activities of road maintenance after Sustainability seminar and review of seminar report. JICA team will submit recommendation of improvement of road maintenance management. We will provide list of equipment for road maintenance from Japan."

1.2	Assist in implementing pilot projects on road slope stability and relevant OJTs.	16 ROs 1. To assist implementation of pilot projects 2. To assist in 3-day field trainings (lecture, actual field training and discussions) 3. To monitor pilot projects. 4. To assist in the selection of pilot project "We continued to assist RO to implement pilot project on road slope protection. 10 pilot projects were implemented in 2018. JICA team and C/P conducted field trainings during implementation of project"
1.3	Monitor and evaluate situations of road maintenance management by ROs/DEOs.	1. Monitoring and evaluation of road maintenance in ROs/DEOs continuously. 2. Conducting meetings of CWG on road maintenance/road slope. "We continued to monitor and evaluate road maintenance activities. In particular, to review Pocketbook on routine maintenance which was developed in TCP-II. We provided action plan for improvement of routine maintenance"
1.4	Review manuals on road maintenance management and construction supervision developed and/or revised in Phase-II and make their necessary revisions	1. Develop new manual on road slope protection titled "Road Slope Protection Manual". 2. Revise the "Pocketbook on Routine Maintenance" "We continued the review of the manuals, and guidebook. We are revising pocket book for routine maintenance as we continue to apply actual situation in the field."

Mr. Nagao showed several photographs of project activities under Output 1. He explained that during CWG meetings, JICA Expert and C/P together discussed bridge maintenance technology. For monitoring, JICA Expert and C/P are visiting DEO to monitor routine maintenance activities. After monitoring, JICA team submitted monitoring reports to DPWH including recommendation of improvement of routine maintenance. Also, we conducted checking of condition inspection data in BMS and reviewing engineering inspection report using NDT which are conducted by DPWH engineers.

Output-2: Capability of concerned engineers of all Regional Offices/District Engineering Offices on bridge Maintenance management is enhanced.

Activity	Output
2.1 Assist in conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended list of equipment/tools for bridge maintenance.	1. To monitor activities of bridge maintenance and follow-up seminars. 2. To submit evaluation and analysis of output of sustainability reports 3. To assist the enhancement of knowledge and skills of DPWH engineers in all ROs/DEOs. 4. To recommend new equipment/tools for bridge maintenance
2.2 Assist in conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Review bridge condition data and assist in bridge engineering inspection.	1. To conduct Field Training on Bridge Engineering Inspection, Load Rating of Bridges (Mindanao area). 2. Check BMS bridge condition inspection data in all Regional Offices for verification of the accuracy. 3. Assist Echo-Training in Luzon area. 4. Assist actual bridge engineering inspection
2.3 Assist in implementing pilot projects on bridge repair and relevant OJTs.	16 ROs 1. To assist implementation of pilot project 2. To assist 3-days field training (Lecture, Actual Field Training and Discussion). 3. To assist site selection of pilot project. 4. To monitor Pilot Project.
2.4 Monitor and evaluate situations of bridge maintenance management by ROs/DEOs.	1. Monitoring and evaluation of bridge maintenance in ROs/DEOs. 2. Conducting meetings of CWG on bridge maintenance/bridge repair.
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	1. Revise Bridge Repair Manual 2. Revise Pocketbook on Routine Maintenance

We continued to follow-up activities of road maintenance after sustainability seminar and reviewed seminar report. JICA team will submit recommendation on the improvement of bridge maintenance management. We provided DPWH with list of maintenance equipment using new technology in Japan. We continued to conduct 8 days training, field training on bridge engineering inspection using NDT and Load rating in Mindanao Area last April 10 to 17. After field training, DPWH regional office conducted echo training with JICA Team's assistance. We continued checking of bridge condition inspection data of BMS in the different ROs and DEOs. We likewise continued to assist ROs to implement pilot projects on bridge repair. We also continued to monitor and evaluate bridge maintenance activities. In particular, reviewed Pocket on routine maintenance which was developed in TCP-II. We also provided action plan for improvement of routine maintenance. We also finished review of manuals, guidebooks.

Output-3: Capability of concerned engineers of all ROs/DEOs in target Regions (II, III, VII, VIII and XIII) on Special Bridge maintenance management is enhanced.

	Activity	Output
3.1	Develop special bridge maintenance management manual.	1. Developed new manual titled "Routine Maintenance for Special Bridge".
3.2	Conduct seminars/OJTs on special bridge routine maintenance management for concerned engineers of target ROs/DEOs.	1. Conduct OJT on Special Bridge Maintenance Management in ROs II, III, VII and VIII.
3.3	Assist conducting seminars/OJTs on special bridge inspections for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	1. To conduct field training on Special Bridge Inspection. 2. To conduct special bridge (Agas-agas Bridge) condition 3. Inspection of OJT in RO-VIII 4. To assist Re-Echo-Training. 5. To assist condition inspection. 6. To assist Sustainability Seminar. 7. To conduct special bridge inspection by Drone.
3.4	Assist in implementing pilot projects on special bridge repair and relevant OJTs.	1. RO-II (Magapit Bridge) – Implementation of pilot project and conducting OJT 2. RO-III (Bamban Bridge) – Implementation of project and conducting OJT. 3. RO-VII (1st Mandaue-Mactan Bridge) – Implementation of project and conducting OJT 4. RO-XIII (Diosdado Macapagal Bridge) – Implementation of project and conducting OJT 5. Monitoring and evaluation of pilot projects
3.5	Monitor and evaluate situation of special bridge inspections by ROs/DEOs.	1. Monitoring and evaluation special bridge maintenance in ROs/DEOs continually. 2. Hold meetings of CWG on special bridge maintenance.
3.6	Review special bridge inspection manuals developed in Phase-II and make necessary revisions.	1. Revise Special Bridge Inspection Manual

For the above activities, we developed special bridge maintenance management manual, conducted OJT on special bridge routine maintenance in RO II, III, VII and VIII; We followed up activities of special bridge maintenance after Sustainability seminar and review seminar report. We conducted 8 days field training on special bridge inspection in Mindanao area. After field training, DPWH regional office conducted echo training for BMS inspectors. JICA assisted in conduct of re-echo training also. We assisted implementation of pilot project on special bridge repair in RO-II, III, VII, XIII and during implementation of the projects, we conducted OJT. We also monitored and evaluated special bridge inspection activities. We revised the special bridge inspection manual.

Output-4: Database system to be utilized for road and bridge maintenance management is developed.

	Activity	Status/Output
4.1	Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Completed
4.2	Prepare the basic plan (framework, necessary data entry, operation manner, selection of model RO, etc.) for developing the database system.	Completed
4.3	Develop the database system based on the basic plan.	Completed
4.4	Enter necessary data and make trial operations on the system at model ROs	Completed
4.5	Improve the system in consideration of the results of trial operations at model RO.	Completed
4.6	Prepare relevant manuals including operation manner.	Completed
4.7	Conduct seminars on the database system and its relevant manuals.	Completed:

Mr. Nagao showed photos of activities done during development of database system. The title of system is Maintenance Information System on Road Slope and Bridge Repair, MIRB. During CWG and TWG meetings, JICA Expert and C/P together discussed and developed database system for road and bridge maintenance. JICA team installed some equipment such as scanner and computer to model region. JICA team and C/P have conducted trial input, practice in CO, RO-CAR, VII and XI being the selected regions. We invited engineers who are involved in road and bridge maintenance in regional office and district engineer office. The system was completed end of last year. We turn over the system to DPWH today.

- The project also completed the following manuals and addendums:
  New manuals
  - Road Slope Protection Manual
  - Routine Maintenance Manual for Special Bridge
    - MIRB User Manual

  Addendum to existing manuals
  - Bridge Repair Manual
  - Special Bridge Inspection Manual
  - Pocket Book on Routine Maintenance

- 16 video recordings of selected activities were taken and will be consolidated into a 30-minute video of the project from Phase I, II and III

- The project introduced new technologies on road and bridge maintenance. These are:
  1) Road maintenance technology on Road Slope Protection systems such as active and passive protection systems, catch fences, erosion control mats, roving and cellular confinement systems
  2) Bridge maintenance technology on standard bridge repair methods including CFS, CFP, epoxy coating/ injection/caulking, pcm, expansion joints, asphaltic plug joints, expansion joint., longitudinal expansion joints, protective coating/mortars, waterproofing for deck slab, rubber

bearings, painting materials, HTB and nylon fiber gabions.

3) Bridge maintenance technology on special bridge repair methods including: scour protection, strengthening of tower/cross beam, paving by emulsified asphalt, and underwater cure high flow grouts.
4) Routine maintenance of special bridges using epoxy coating, high pressure water blaster for cleaning of expansion joints and deck slabs, touch-up paints, polymer mortars
5) Road and bridge inspection by drone
6) Conduct of road and bridge seminars to 420 division chiefs and section chiefs of different ROs and DEOs, respectively.

- On the Achievement of the Outputs, results indicated that all outputs were achieved by the Project.

Output	Objectively Verifiable Indicators	Achievement
Output -1 Road Maintenance	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1. Achieved: 64 % of engineers agreed.
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2. Achieved: 17 Pilot projects were implemented
Output -2 Bridge Maintenance	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1. Achieved: 10-day training: 71% Load Rating: 68 % Bridge repair 86 % of engineers agreed
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2. Achieved: 29 Pilot projects were implemented
Output -3 Special Bridge Maintenance	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1. Achieved: 10-day training: 67.8% Routine maintenance: 82% 4th OJT on inspection: 70.4% Special bridge repair: 74% of engineers agreed.
	3-2. Four (4) planned pilot projects on special bridge repair are implemented	3-2. Achieved: 7 Pilot projects were implemented. - Magapit Br (2x) - Bamban Br (2x) - 1st MM Br (2x) - Diosdado Macapagal Br (1x)
Output -4 Database System	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started.	4-1. Achieved CAR, RO-VII, RO-XI is started.

- On the Achievement of Project Purpose, results showed that project purpose was achieved by the Project.

Narrative Summary	Objectively Verifiable Indicators	Achievement
Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project 2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	1. Achieved - Maintenance management works are continued by ROs/DEOs in all Regions with utilizing manuals. – Sustainability program will be continued in 2019 until 2020. 2. Achieved - More than 34 project were implemented by all ROs/DEO's.

- As to the Achievement of Overall Goals, the following is forecasted to be achieved within three years after completion of the Project:

Narrative Summary	Objectively Verifiable Indicators	Achievement
Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion 2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion 3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. * *This is same number to that of planned additional construction projects on bridge repair set as an indicator for Project Purpose.*	1. Achieve 89% 2. Achieve 99% 3. Achieve - More than 450 Projects on road slope protection & bridge repair will be implemented within 3 years. *(more than A target of 4 -5 project/RO/Year on Road slope protection & Bridge repair will be implemented)*

- Recommendations:

- This Project is regarded as the blue print of road & bridge maintenance management in the Philippines. In order to achieve its Overall Goal, DPWH should continue the appropriate road & bridge maintenance practices and technologies from now on: To accomplish this, the following measures should be taken by the Philippine side:
  1. To secure the necessary annual budget and timely implementation of activities
  2. To continue enhancement of capacity building for DPWH engineers, in particular young engineers.
  3. To update technology of road & bridge maintenance continuously.

- DPWH management and staff should work hand in hand in passing the knowledge within co-engineer, the next engineer to come, in sustaining the program from this project in the following years to come.
- JICA has been implementing technology transfer for more than 10 years for the improvement of maintenance management of roads and bridges in the Philippines, and we, JICA project Team appreciate the support of DPWH engineers in particular the DPWH counterparts.

9. Discussion on Sustainability Program in 2019 – as explained by Project Manager Doroy

- Background - The Technical Cooperation Project on Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III (TCP III) was undertaken from February 2016 to January 2019 by JICA in cooperation with DPWH counterparts with the overall goal of improving the condition of roads and bridges administered by DPWH and with the target output that technical capabilities of concerned DPWH engineers nationwide regarding road and bridge maintenance management are enhanced. As stipulated in the approved Records of Discussion as agreed upon between the DPWH and JICA dated 25 November 2015 of JICA TCP III, DPWH shall 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 the Republic of the Philippines. Thus, a Sustainability Program has to be established.

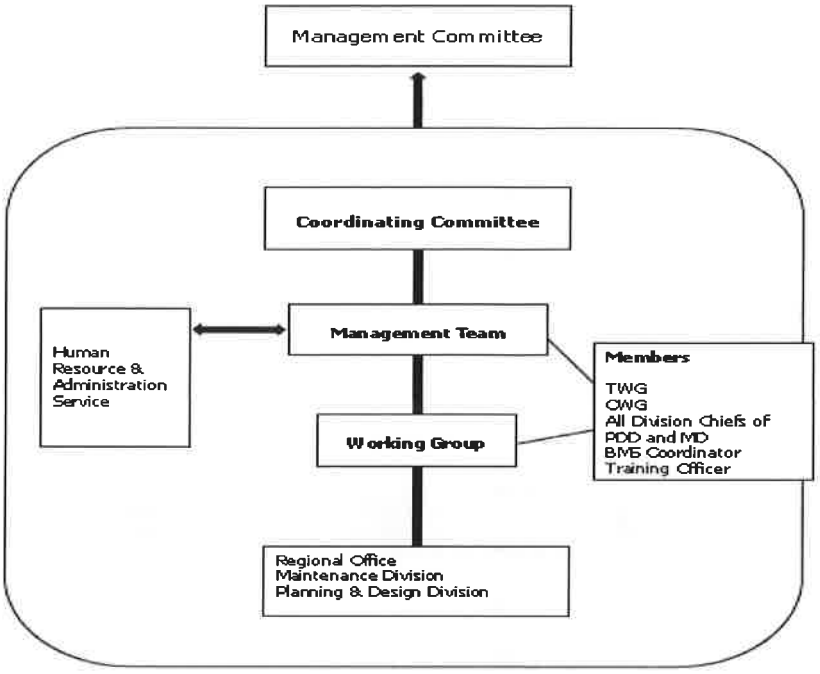
- Purpose - The capability of DPWH on road and bridge maintenance management, bridge condition/engineering inspection, special bridge condition inspection and special bridge maintenance in the 16 Regional Offices and 182 District Engineering Offices is improved.

- Duration - 2 years (24 months) - February 2019 to January 2021

- Organization -

1. Coordinating Committee (CC)
   Chairman – Undersecretary for Technical Services
   Vice-Chair – Assistant Secretary for Technical Services
   All Bureau Directors
   Planning Service Director
   Information Management Service Director
   All Regional Directors
   Project Manager and Deputy Project Managers
2. Management Team (MT)
   Project Manager, Deputy Project Managers
   All TWG Members
3. Counterpart Working Group (CWG)

- Administrative Organizational Chart of the Sustainability Program:



- Target Outputs - Output 1: Capability of engineers on road and bridge maintenance management is enhanced; Output 2: Capability of engineers on Bridge Condition/ Engineering Inspection, Special Bridge Condition Inspection and Special Bridge Maintenance is enhanced; Output 3: Maintenance Information for Road Slope and Bridge Repair (MIRB) in the Database System is established/stored.

- Activities on Road and Bridge Maintenance - To improve road and bridge maintenance on all national road network throughout the Philippines through the following:
  - monitor pilot projects on road slope and bridge maintenance
  - conduct On the-Job-Training (OJT)/Echo-Training on Database System
  - conduct Echo-Training on Special Bridge Maintenance using appropriate maintenance equipment
  - conduct actual gathering/encoding of Maintenance Information for Road Slope and Bridge Repair (MIRB)

- Activities on Bridge Inspection - To improve bridge inspection skills of DPWH engineers through the following:
  - facilitate and monitor the actual conduct of Bridge Engineering Inspection and Special Bridge Condition Inspection utilizing technical manuals developed under JICA-TCP II and III
  - actual conduct of Bridge Engineering Inspection and Special Bridge Condition Inspection using Non-Destructive Test (NDT) equipment and other support equipment.
  - conduct Echo-Training on Special Bridge inspection
  - monitor bridge inspection and repair work in DPWH

- Operational Support to be provided by the Regional Offices - Provide full support in all the activities of the Sustainability Program; Ensure the availability of the TWG/CWG members who are trained as resource speakers for the conduct of OJTs and monitoring of completed as well as remaining pilot projects and special bridge repair projects; Ensure the availability of Non-Destructive Testing Equipment/Apparatus for the conduct of Bridge Engineering Inspection; Provide computers/laptops, printers, scanners and other logistics for each Maintenance Division/Section necessary for the establishment of MIRB.

- Proposed Budget (CY 2019-2020):

Region	Allocation (Php Million)
CAR	2.24
I	3.78
II	3.51
III	4.31
IV-A	3.14
IV-B	3.81
V	6.27
VI	8.64
VII	2.24
VIII	3.40
IX	2.27
X	2.07
XI	1.11
XII	1.98
XIII	2.98
NCR	2.69
Total	54.44 Million

- Proposed Department Orders for Approval by the DPWH Secretary-
  - Department Order – Subject: Technical Manuals and Guidelines on Road and Bridge Maintenance and Inspection. This DO is necessary for the dissemination of the Eighteen revised/formulated Technical Manuals in all Regional and District Engineering Offices
  - Department Order – Subject: Maintenance Information on Road Slope and Bridge Repair (MRIB). This necessary for the establishment of Maintenance Information on Road Slope and Bridge Repair (MIRB) in the Database system

- Draft Memoranda for Approval by the DPWH Secretary -
  - MEMORANDUM for the Secretary from the Project Manager, JICA-TCP III submitting the Proposed Sustainability Program for the Improvement of Quality Management for Highway and Bridge Construction and Maintenance under JICA-TCP III, for the Secretary's consideration and approval.
  - MEMORANDUM from the Secretary to Concerned Officials/Personnel re: Creation of Technical Working Group (TWG) and Counterpart Working Group (CWG) Members for the Sustainability Program of JICA-DPWH Technical Cooperation Project (TCP) on the Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

- Draft Memorandum for Approval by DPWH Undersecretary for Technical Services –
  - MEMORANDUM for the Undersecretary for Technical Services from the Project Manager, JICA-TCP III re: Request to Continue to Use the JICA-TCP III Office at the DPWH Central Office for the Sustainability Program

- Recommendation - Approval of the SUSTAINABILITY PROGRAM for the "Improvement of Quality Management for Highway and Bridge Construction and Maintenance under JICA-TCP III

10. Approval of Revision of Pocketbook on Routine Maintenance and Sustainability Program

- The following documents were approved during the meeting:

APPROVAL OF OUTPUTS OF JICA TECHNICAL COOPERATION PROJECT

As a result of the discussions in the 7th Joint Coordination Committee Meeting held on 1 February 2019, JICA Expert Team, the Counterparts of DPWH and the concerned authorities of DPWH agreed the completion all activities of the Project as per Draft Final Report and approved herewith the output of the Project, Pocketbook on Routine Maintenance.

Date: 1 February 2019

Approved by:

Mr. Emil K. SADAIN
Chairperson for JCC
Undersecretary for Technical Services
Department of Public Works and Highways
The Republic of the Philippines

Prepared by:

Mr. Hideo NAGAO, PE. Jp.
Team Leader
Bridge Expert
JICA Expert Team

Prepared by:

Mr. Aristarco M. Doroy
Project Manager
Bureau Assistant Director,
Bureau of Construction,
Department of Public Works and Highways

Witness:

Ms. Kiyo KAWABUCHI
Senior Representative
JICA Philippines Office
Japan International Cooperation Agency

Witness:

Ms. Ma. Vena N. Manio
Deputy Project Manager
Bureau Assistant Director,
Bureau of Maintenance,
Department of Public Works and Highways

11. Turnover of Road Slope Protection Manual, Special Bridge Routine Maintenance Manual, and Database System

- The following documents were turned over during the meeting:

CERTIFICATE OF TURNOVER

This is to certify that the following outputs, which are developed under the Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III, have been turned over properly to DPWH, as of February 1, 2019.

1) Maintenance Information System on Road Slope and Bridge Repair (Database System)
2) Road Slope Protection Manual
3) Routine Maintenance Manual for Special Bridge
4) MIRB User Manual

Received by:

Mr. Emil K. SADAIN
Chairperson for JCC
Undersecretary for Technical Services
Department of Public Works and Highways
The Republic of the Philippines

Prepared by:

Mr. Hideo NAGAO, PE. Jp.
Team Leader

Prepared by:

Mr. Aristarco M. Doroy
Project Manager

11. Discussions of Issues and Concern

DPM Manio: The floor is now open for further discussions.

PM Doroy: I am concerned with the participation of TWG and CWG members in the upcoming sustainability program. We want to have assurance that full support for the program from the regional directors, especially on the participation of assigned personnel and repair or replacement of defective NDT apparatus. In the reports of engineering inspections conducted after the re-echo trainings, we found that reasons cited for delayed submittal is non-availability of NDT apparatus. We also request that the regional office provide funds for the repair and replacement of defective apparatus.

PM Doroy: Another issue is that in the actual implementation, we noted that bridge repair is not being given enough attention. We also request the BMS staff to utilize the engineering inspection manual in their work.
It is good that JICA Team conducted seven 1-day seminars in January 2019 to the division chiefs and section chiefs of all regional offices, they are now aware of the goals and purpose of the TCP program.

Engr. Jimenez: In terms of funding, we have bridge retrofitting and rehabilitation fund under our regular program. Funding is not the problem, rather, its in the proper

implementation of the lessons learned under the TCP, as well as in procurement of materials from other countries. The CWG members know all about these.

Region I RD: With regards to retrofitting of bridges, we are requesting that regardless of the amount, the regional offices should implement the project.

Usec Sadain: I agree with the request. We will amend the existing DO related to the issue.

Region VII ARD: With regards to the support of the regional office, we express our full support to the sustainability program. There should be continuous cascading of the technical knowledge so that we will always have a pool of capable engineers. We should not confine ourselves to those originally trained.

Usec Sadain: This is the purpose of TCP. May we request the Planning Service to fund the P54 Million cost for the sustainability program so that we can strengthen the cascading of knowledge, manuals and testing by NDT to all engineers of the department. We will make sure that all regional offices, district offices as well as bureaus and services will be provided hard copies of all 18 manuals. These will make sure that our handling of the maintenance of roads and bridges complete.

Engr. Jimenez: Aside from the bridges, we also have same issues on road slope protection.

Dir. LLanes: In the regular program, we will make sure that the there is fund for the sustainability program

PM Doroy: May I remind the regional directors that for the remaining on-going pilot projects, to please continue its implementation based on the recommendation of JICA experts. On the case of the problem in repair of Magapit Br. in Region II where no report submitted, may we request the regional office to submit status report immediately.

Region II ARD: The contractor had problems on procurement of nylon gabions around the pier, however, the issue was resolved already. Another concern, is in the strengthening of the cross-beam of the towers. JICA wanted to use one whole plate to be welded at the bottom, but since the openings are very small, we decided to install by smaller pieces.

RO IX ARD: It seems to me that our region is not included in the TCP. I hope that for the sustainability, we will be included.

DPM Manio: One road slope protection project was completed in RO IX.

Mr. Shibata: JICA will conduct post-evaluation of the projects after two years. We are also concerned about the sustainability program.

IMS: May we know when we can get the source code and system documentation of MIRD.

Mr. Nagao: We will turn it over to IMS after end of the meeting.

13. Closing Remarks -by Usec Sadain

"There is still much to be done for our TCP. Initially, we started with three pilot regions and now we expanded to all 16 regions.

As there are 34 on-going projects, it means we need to put more efforts in maintenance.

Two weeks ago, DPWH and WB discussed how to address the occurrence of landslides. Even in construction stage, we should address erosion and landslide control. We should always refer to the geohazard maps made by MGB in the conduct of construction of new roads. For existing roads, we have to protect them. We will be investing a lot of funds for maintenance.

Last December, we requested WB to continue the TA for the IRAP and road engineering safety for all existing roads. This project will be under the BQS.

Parallel to this, there is the issue of disaster resiliency for landslides. Actually, I requested WB to include erosion and landslide control on existing roads. WB referred us to JICA and GOJ because they have this global facility for disaster risk management which is in form trust funds in WB focusing on disaster resiliency projects, the funds are from Japanese government. A while ago I talked to Ms. Kawabuchi and Mr. Ichiki on how to avail of this fund.

To the Study Team, thank you and please know that we really appreciate the inputs provided by the TCP. I hope that there will be other TCPs for tunnels, bypasses and flood control.

The TCP program can be applied to other government agencies' projects like the DOTR's subway and BCDA. The DPWH can use the inputs learned so that they can be transferred to them.

We will make sure that the Sustainability Program will be able to cascade the knowledge and knowhow to engineers of all regions and districts.

Thank you very much."

13. There being no more agenda and topics to be discussed, the meeting officially ended at 11:45 AM

Nothing Follows

Prepared by:

Rodrigo A. Yago
JICA TCP III Asst. Engineer (Bridge)

Approved by:

Hideo Nagao
JICA TCP III Team Leader/
Bridge Maintenance

and

Aristarco M. Doroy
Project Manager, TCP III
Asst. Director, BOC

Appendix 5 Project Monitoring Sheet

Project Monitoring Sheet Ver. 1 on 31 March 2016

Project Monitoring Sheet Ver. 2 on 27 September 2016

Project Monitoring Sheet Ver. 3 on 20 March 2017

Project Monitoring Sheet Ver. 4 on 10 October 2017

Project Monitoring Sheet Ver. 5 on 03 April 2018

Project Monitoring Sheet Ver. 6 on 26 October 2018

TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version of the Sheet: Ver.1 (Term: Feb 16, – Mar 31, Year)

Name: Hideo NAGAO

Title: Team Leader

Submission Date: 31 Mar 2016

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- **Dispatch of JICA Experts**
  - Team Leader/Bridge maintenance management (Mar 2 - Mar 31)
  - Road maintenance management (Mar 28 - Mar 31)
  - Bridge repair (Mar 29 - Mar 31)
  - Special bridge maintenance management (Mar 14 - Mar 31)
  - Special bridge repair (1) (Mar 14 - Mar 31)
  - Special bridge repair (2) (Mar 14 - Mar 31)
  - Database system (Mar 28 - Mar 31)
  - Monitoring and evaluation/Coordinator (Mar 2 - Mar 31)
- **Purchased Equipment (Lot 1)**
  - Projector, Copier machine, Desktop Computer for Central Office

1-1-1 Philippine side

- **Assignment of counterpart**
  - Project Manager
  - Deputy Project Manager
  - Project Coordinator
  - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR, VIII, XI, and XIII)
- **Office facilities**
  - Workspace in Central Office

1-2 Progress of Activities

- **Assist implementing pilot projects on special bridge repair**
- **Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program**
- **Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program.**
- **Monitor and evaluate situations of bridge maintenance engineering inspections by ROs/DEOs.**
- **Develop special bridge maintenance and management manual.**
- **Monitor and evaluate situations of special bridge inspections by ROs/DEOs.**

1-3 Achievement of Output

- **Ongoing**

1-4 Achievement of the Project Purpose

- **Ongoing**

1-5 Changes of Risks and Actions for Mitigation

- **None**

1-6 Progress of Actions undertaken by JICA

- **Submission of requesting letter of additional new young engineers as counterparts**

1-7 Progress of Actions undertaken by DPWH

- **None**

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- **None**

2 Delay of Work Schedule and/or Problems (if any)

- **None**

3 Modification of the Project Implementation Plan

3-1 PO

- **None**

3-2 Other modifications on detailed implementation plan

- **None**

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version 1
Dated 31, March, 2016

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH **Model Site: none**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose.	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose					
Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured. 2. Philippine government policy on road and bridge sector remains consistent.		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs					
1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets			
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2. 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs 1-2 Assist implementing pilot projects on road slope stability and relevant OJTs 1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs 1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions 2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs 2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs 2-3 Assist implementing pilot projects on bridge repair and relevant OJTs 2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs 2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions 3-1 Develop special bridge maintenance and management manual 3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs 3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII) 3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs 3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs 3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions 4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved 4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system 4-3 Develop the database system based on the basic plan 4-4 Enter necessary data and make trial operations of the system at model RO 4-5 Improve the system in consideration of the results of trial operations at model RO 4-6 Prepare relevant manuals including operation manner 4-7 Conduct seminars on the database system and its relevant manuals	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	1. Participation of C/Ps and other concerned engineers in Project activities is ensured. Pre-condition 1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay <Issues and countermesures>

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 1

Dated 31, March, 2016

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Monitoring

Inputs	Plan/Actual	2016 I (Feb–Mar)	2016 II (Apr–Jun)	2016 III (Jul–Sep)	2016 IV (Oct–Dec)	2017 I (Jan–Mar)	2017 II (Apr–Jun)	2017 III (Jul–Sep)	2017 IV (Oct–Dec)	2018 I (Jan–Mar)	2018 II (Apr–Jun)	2018 III (Jul–Sep)	2018 IV (Oct–Dec)	2019 I (Jan–Feb)	Remarks	Issue	Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan																
	Actual																
Road Maintenance Management	Plan																
	Actual																
Road Slope Protection	Plan																
	Actual																
Bridge Repair	Plan																
	Actual																
Special Bridge Maintenance Management	Plan																
	Actual																
Special Bridge Repair (1)	Plan																
	Actual																
Special Bridge Repair (2)	Plan																
	Actual																
Database System	Plan																
	Actual																
Monitoring and Evaluation/Coordinator	Plan																
	Actual																
Equipment																	
Tools for OJT	Plan																
	Actual																
Equipment for database system	Plan																
	Actual																
Training in Japan																	
Training for Counterpart Personnel	Plan																
	Actual																
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan																
	Actual																

Activities / Sub-Activities	Plan/Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Responsible Organization: Japan	Responsible Organization: GOP	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs.	Plan																	
	Actual																	
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs.	Plan																	
	Actual																	
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs.	Plan																	
	Actual																	
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan																	
	Actual																	
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs.	Plan																	
	Actual																	
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs.	Plan																	
	Actual																	
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.	Plan																	
	Actual																	
2.4 Monitor and evaluate situations of bridge maintenance engineering inspections by ROs/DEOs.	Plan																	
	Actual																	
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan																	
	Actual																	
Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.																		
3.1 Develop special bridge maintenance and management manual.	Plan																	
	Actual																	
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	Plan																	
	Actual																	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	Plan																	
	Actual																	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.	Plan																	
	Actual																	
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.	Plan																	
	Actual																	
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.	Plan																	
	Actual																	
Output 4: Database system to be utilized for road and bridge maintenance management is developed.																		
4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Plan																	
	Actual																	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system.	Plan																	
	Actual																	
4.3 Develop the database system based on the basic plan.	Plan																	
	Actual																	
4.4 Enter necessary data and make trial operations of the system at model RO.	Plan																	
	Actual																	
4.5 Improve the system in consideration of the results of trial operations at model RO.	Plan																	
	Actual																	
4.6 Prepare relevant manuals including operation manner.	Plan																	
	Actual																	
4.7 Conduct seminars on the database system and its relevant manuals.	Plan																	
	Actual																	
Duration / Phasing	Plan																	
	Actual																	

Monitoring Plan	Plan/Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Remarks	Issue	Solution
Monitoring																	
Joint Coordinating Committee	Plan																
	Actual																
Set-up the Detailed Plan of Operation	Plan																
	Actual																
Submission of Monitoring Sheet	Plan																
	Actual																
Monitoring Mission from Japan	Plan																
	Actual																
Joint Monitoring	Plan																
	Actual																
Post Monitoring	Plan																
	Actual																
Reports/Documents																	
Work Plan	Plan																
	Actual																
Project Final Report	Plan																
	Actual																
Public Relations																	
JICA Web Site	Plan																
	Actual																
DPWH Web Site	Plan																
	Actual																

TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version of the Sheet: Ver.2 (Term: Apr 1 – Sep 27, 2016)

Name: Hideo NAGAO

Title: Team Leader

Submission Date: 27 September 2016

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- **Dispatch of JICA Experts**

  Team Leader/Bridge maintenance management (Mar2-Apr8, Apr23-May21, Aug5-Sep27)

  Road maintenance management (Mar28-Apr26, May13-Jun11, Aug8-31)

  Road Slope Protection (Apr12-May20, Sep12-27)

  Bridge repair (Mar29-Apr27, Aug1-30)

  Special bridge maintenance management (Mar14-Apr12, May15-Jun13, Jul24-Sep6)

  Special bridge repair (1) (Mar14-Apr27, Jul5-Aug3)

  Special bridge repair (2) (Mar14-Apr27, Aug4-Sep12)

  Database system (Mar28-May7, Sep3-27)

  Monitoring and evaluation/Coordinator (Mar2-Apr23, Aug24-Sep30)

- **Purchased Equipment**

  4-Projector, 4-Copier machine, 4-Desktop Computer (CO, RO-II, III, XIII)

  2-Water Pressure, 2-Generator (RO-III, RO-VII)

  3-Oxygen Detector (RO-II, III, VIII)

1-1-1 Philippine side

- **Assignment of counterpart**

  Project Manager

  Deputy Project Manager

  Project Coordinator

  Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR, VIII, XI, and XIII)

*** Updates in red color**

Counterpart Working Group for Database System
Additional Counterpart personnel for Sustainability Program Team (young engineers)
Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII)

- Office facilities
  Workspace in Central Office and Regional Offices (CAR, II, III, VII, XI, XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar9-23)
- Approval of Work Plan (Mar 31)
- Conduct 1st Joint Coordinating Committee Meeting (Mar 31)
- Approval of Amendment to the Work Plan (Apr 1)
- Purchased and Delivered Equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2)
- Video recording on meetings/activities (CWG meeting, OJT on RO-II, IV-A. VII, VIII)

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Conduct site survey of the pilot project on road slope stability implemented by DPWH (RO IV-A)
- Assist conducting field training on road slope stability (RO-I: Apr19-20)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-VI, V, X)
- Monitor and evaluate situation of road maintenance management by ROs/DEOs (NCR, CAR, RO IV-A, RO-VII, RO-XI)
- Develop road slope protection manual and review pocket book on road and bridge

Output 2.

- Assist conducting seminars on bridge maintenance management by Sustainability Program (For RO-V,VIII: Mar9-11 @RO-V, For RO-II, III: May16-20 @RO-II)
- Conduct trainers training on bridge engineering inspection using NDT (RO-VII: Sep12-15)
- Correct current status of NDT for bridge engineering inspection in all ROs
- Conduct site survey of the pilot project on bridge repair implemented by DPWH

* Updates in red color

- (RO IV-A)
- Assist conducting field training on bridge repair (RO-CAR: Apr11-13, RO-I: Apr20-22, RO IV-A: Aug17-19)
- Conduct site survey to select repair method for pilot projects on bridge repair (RO-V, IV-B)
- Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs (RO-I: 3DEOs)
- Conduct checking of Bridge Condition Inspection Data on BMS (RO-VI: May4-5, RO-VIII: May18-20, RO-IVA: Aug11-12, RO-X: Sep20-22)

Output 3.

- Prepare a draft manual for special bridge maintenance and management
- Conduct OJT on special bridge maintenance management
  - 1st OJT on special bridge maintenance management: RO-III, Aug 9-10
  - 2nd OJT on special bridge maintenance management: RO-VII, Aug16-17
- Assist conducting seminars on special bridge inspections by Sustainability Program (For RO-II, III: May23-27 @RO-II)
- Conduct seminar on special bridge inspection in RO-VIII (Aug30-Sep2)
- Assist implementing pilot projects on following special bridge repair;
  - Magapit Bridge (RO-II):
    - Collect data of past repair/ rehabilitation
    - Conduct field survey on the existing condition and geometric survey
  - Bamban Bridge (RO-III):
    - Conduct field survey on the existing condition
  - 1st Mandaue Mactan Bridge (RO-VII):
    - Conduct field survey on the existing condition
  - Diosdado Macapagal Bridge (RO-XIII):
    - Conduct field survey on the existing condition and cable vibration
    - Assist preparation of tender documents and conducting pre-bidding for pavement rehabilitation work
    - Collect information about settlement of embankment and vibration of cable-stayed bridge in Japan

Output4.

- Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved
- Discuss with DPWH and World Bank
- Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system

* Updates in red color

1-3 Achievement of Output

- **Ongoing**

1-4 Achievement of the Project Purpose

- **Ongoing**

1-5 Changes of Risks and Actions for Mitigation

- **None**

1-6 Progress of Actions undertaken by JICA

- **None**

1-7 Progress of Actions undertaken by DPWH

- **None**

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- **None**

2 Delay of Work Schedule and/or Problems (if any)

- **Some counterparts cannot participate in project activities by reason of busyness due to having ordinary tasks and/or unable to obtain consent from their boss**
- **Budget for the Project has been cut**

3 Modification of the Project Implementation Plan

3-1 PDM

- **Addition in activity 1.1:**
  Recommended List of Equipment/Tools for road maintenance
- **Addition in activity 2.1:**
  Recommended List of Equipment/Tools for bridge maintenance.
- **Addition in activity 2.2:**
  Bridge Condition Data Review and Bridge Engineering Inspection.
- **Addition in input by the Philippine side**
  Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X

*** Updates in red color**

and XII)

3-2 PO

- OJT on the pilot project on special bridge repair
- Activities for database system
- Training in Japan (1st)

3-3 Other modifications on detailed implementation plan

- Bridge/road slope inspection by drone
  - Special Bridge Inspection:Diosdado Makapagal Bridge(RO-XIII) on Nov22, 2016
  - Special Bridge Inspection: Magapit Bridge (RO-II) in 2017
  - Road Slope Inspection: Baguio (RO-CAR) in 2017
- Field training on engineering inspection/special bridge inspection/load rating
  - Duration: 8 days
  - Schedule: RO-VII (Visayas area) and RO-XIII (Mindanao area) in 2017
    RO-III (Luzon area) in 2018

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

September 27, 2016
Confirmed by:

DPWH	JICA Team
Ms. Judy F. Sese	Hideo NAGAO
Director, Bureau of Research and Standards	Team Leader / Bridge Expert
Project Manager DPWH-JICA TCP	JICA Expert Team

Project Monitoring Sheet I （Revision of Project Design Matrix）

Project Title: **The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III**

Version 2
Dated 27 September, 2016

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH **Model Site: none**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured. 2. Philippine government policy on road and bridge sector remains consistent.		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs 1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets			
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2. 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff - Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII) 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	1. Participation of C/Ps and other concerned engineers in Project activities is ensured.
1-2 Assist implementing pilot projects on road slope stability and relevant OJTs			
1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs			
1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.			
2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.			
2-3 Assist implementing pilot projects on bridge repair and relevant OJTs			
2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs			
2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
3-1 Develop special bridge maintenance and management manual			Pre-condition 1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay
3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs			
3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII)			
3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs			
3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved			<Issues and countermesures>
4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system			
4-3 Develop the database system based on the basic plan			
4-4 Enter necessary data and make trial operations of the system at model RO			
4-5 Improve the system in consideration of the results of trial operations at model RO			
4-6 Prepare relevant manuals including operation manner			
4-7 Conduct seminars on the database system and its relevant manuals			

***Changes and updates in red color**

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 2

Dated 27 September, 2016

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Inputs	Plan/Actual	2016 I (Feb Mar)	2016 II (Apr May Jun)	2016 III (Jul Aug Sep)	2016 IV (Oct Nov Dec)	2017 I (Jan Feb Mar)	2017 II (Apr May Jun)	2017 III (Jul Aug Sep)	2017 IV (Oct Nov Dec)	2018 I (Jan Feb Mar)	2018 II (Apr May Jun)	2018 III (Jul Aug Sep)	2018 IV (Oct Nov Dec)	2019 I (Jan Feb)	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan																
	Actual																
Road Maintenance Management	Plan																
	Actual																
Road Slope Protection	Plan																
	Actual																
Bridge Repair	Plan																
	Actual																
Special Bridge Maintenance Management	Plan																
	Actual																
Special Bridge Repair (1)	Plan																
	Actual																
Special Bridge Repair (2)	Plan																
	Actual																
Database System	Plan																
	Actual																
Monitoring and Evaluation/Coordinator	Plan																
	Actual																
Equipment																	
Tools for OJT	Plan														Addition of OJT equipments for special bridge maintenance		
	Actual																
Equipment for database system	Plan																
	Actual																
Training in Japan																	
Training for Counterpart Personnel	Plan																
	Actual																
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan																
	Actual																

Activities / Sub-Activities	Plan/Actual	2016 I (Feb Mar)	2016 II (Apr May Jun)	2016 III (Jul Aug Sep)	2016 IV (Oct Nov Dec)	2017 I (Jan Feb Mar)	2017 II (Apr May Jun)	2017 III (Jul Aug Sep)	2017 IV (Oct Nov Dec)	2018 I (Jan Feb Mar)	2018 II (Apr May Jun)	2018 III (Jul Aug Sep)	2018 IV (Oct Nov Dec)	2019 I (Jan Feb)	Responsible Organization: Japan	Responsible Organization: DPWH	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	Plan																Assisted seminar in RO-II	
	Actual																	
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs.	Plan																Assisted field training in RO-I	
	Actual																	
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs.	Plan																Conducted monitoring on NCR, CAR, RO IV-A, RO-VII, RO-XI	
	Actual																	
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan																	
	Actual																	
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.	Plan																Assisted seminars in RO-V, II	
	Actual																	
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Conditon Data Review and Bridge Engineering Inspection.	Plan																Conducted trainers training in RO-VII Checking of BMS Data in RO-VI, VIII, IV-A, X	
	Actual																	
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.	Plan																Assisted field training in RO-CAR, I, IV-A	
	Actual																	
2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs.	Plan																Conducted monitoring on RO-I	
	Actual																	

***Changes and updates in red color**

Activity		Remarks	Issue	Solution
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan / Actual			
Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.				
3.1 Develop special bridge maintenance and management manual.	Plan / Actual		Prepared draft manual	
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	Plan / Actual		Conducted OJT in RO-III, VII	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII).	Plan / Actual		Assisted seminar in RO-II Conducted OJT in RO-VIII	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.	Plan / Actual			
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.	Plan / Actual			
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.	Plan / Actual			
Output 4: Database system to be utilized for road and bridge maintenance management is developed.				
4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Plan / Actual		Reviewed current filing	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system.	Plan / Actual		Prepared the basic plan	
4.3 Develop the database system based on the basic plan.	Plan / Actual			
4.4 Enter necessary data and make trial operations of the system at model RO.	Plan / Actual			
4.5 Improve the system in consideration of the results of trial operations at model RO.	Plan / Actual			
4.6 Prepare relevant manuals including operation manner.	Plan / Actual			
4.7 Conduct seminars on the database system and its relevant manuals.	Plan / Actual			
Duration / Phasing	Plan / Actual			
Monitoring Plan (2016: I II III IV; 2017: I II III IV; 2018: I II III IV; 2019: I)	Plan / Actual	Remarks	Issue	Solution
Monitoring				
Joint Coordinating Committee	Plan / Actual			
Set-up the Detailed Plan of Operation	Plan / Actual			
Submission of Monitoring Sheet	Plan / Actual			
Monitoring Mission from Japan	Plan / Actual			
Joint Monitoring	Plan / Actual			
Post Monitoring	Plan / Actual			
Reports/Documents				
Work Plan	Plan / Actual			
Project Final Report	Plan / Actual			
Public Relations				
JICA Web Site	Plan / Actual			
DPWH Web Site	Plan / Actual			

***Changes and updates in red color**

TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III
Version of the Sheet: Ver.3 (Term: Sep. 27, 2016 – Mar. 15, 2017)

Name: Hideo NAGAO
Title: Team Leader
Submission Date: 20 March, 2017

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- **Dispatch of JICA Experts**

  Team Leader/Bridge maintenance management (2016: Mar2-Apr8, Apr23-May21, Aug5-Sep30, Nov16-Dec20, 2017: Feb7-Mar15)
  Road maintenance management (2016: Mar28-Apr26, May13-Jun11, Aug8-31, 2017: Feb6-Mar11)
  Road Slope Protection (2016: Apr12-May20, Sep12-Oct5, Nov2-Dec1)
  Bridge repair (2016: Mar29-Apr27, Aug1-30, Nov6-Dec5, 2017: Jan4-Feb2)
  Special bridge maintenance management (2016: Mar14-Apr12, May15-Jun13, Jul24-Sep6, 2017: Feb6-Mar7)
  Special bridge repair (1) (2016: Mar14-Apr27, Jul5-Aug3, Oct17-Nov11, 2017: Jan26-Mar15)
  Special bridge repair (2) (2016: Mar14-Apr27, Aug4-Sep12, 2017: Feb13-Mar10)
  Database system (2016: Mar28-May7, Sep3-30, Oct28-Nov26, 2017: Jan30-Mar15)
  Monitoring and evaluation/Coordinator (2016: Mar2-Apr23, Aug24-Sep30, Nov20-Dec17, 2017: Mar5-Mar15)

- **Purchased Equipment**

  4-Projector, 4-Copier machine, 4-Desktop Computer (CO, RO-II, RO-III, RO-XIII)
  2-Water Pressure, 2-Generator (RO-III, RO-VII)
  3-Oxygen Detector (RO-II, RO-III, RO-VIII)
  1-Angle Grinder (RO-II)

1-1-1 Philippine side

- **Assignment of counterpart**

*** Updates in red color**

Project Manager
Deputy Project Manager
Project Coordinator
Other Counterpart personnel from Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, NIR, RO-VIII, RO-XI, and RO-XIII)
Counterpart Working Group for Database System
Additional Counterpart personnel for Sustainability Program Team (young engineers)
Counterpart personnel from Non-Pilot Regional Offices (NCR, RO-I, RO IV-A, RO IV-B, RO-V, RO-VI, RO-IX, RO-X and RO-XII)

- Office facilities
  Workspace in Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, RO-XI, RO-XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar 9-23, 2016)
- Approval of Work Plan (Mar 31, 2016)
- Approval of Amendment to the Work Plan (Apr 1, 2016)
- Conduct Joint Coordinating Committee Meeting (1st: Mar 31, 2016, 2nd: Sep 30, 2016, 3rd: Mar 15,2017)
- Purchased and delivered equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2, 2016, Mar 2, 2017)
- Video recording on meetings/activities (CWG meeting, Monthly Meeting, OJT on RO-II, RO-VII, RO-VIII, Field Training on RO-IV-A, Bridge Inspection by Drone)
- Conduct Japan training (1st Batch: Nov1-16,2016)
- Post the project news on JICA web site (Apr, Jun, Sep, Dec, 2016)
- Conduct CWG meeting

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Conduct site survey of the pilot project on road slope stability implemented by DPWH (RO IV-A)
- Assist conducting field training on road slope stability (RO-I: Apr19-20, RO-II: Nov8-10)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-III, RO-V, RO-VI, RO-X)

* Updates in red color

Project Manager
Deputy Project Manager
Project Coordinator
Other Counterpart personnel from Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, NIR, RO-VIII, RO-XI, and RO-XIII)
Counterpart Working Group for Database System
Additional Counterpart personnel for Sustainability Program Team (young engineers)
Counterpart personnel from Non-Pilot Regional Offices (NCR, RO-I, RO IV-A, RO IV-B, RO-V, RO-VI, RO-IX, RO-X and RO-XII)

- Office facilities
  Workspace in Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, RO-XI, RO-XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar 9-23, 2016)
- Approval of Work Plan (Mar 31, 2016)
- Approval of Amendment to the Work Plan (Apr 1, 2016)
- Conduct Joint Coordinating Committee Meeting (1st: Mar 31, 2016, 2nd: Sep 30, 2016, 3rd: Mar 15,2017)
- Purchased and delivered equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2, 2016, Mar 2, 2017)
- Video recording on meetings/activities (CWG meeting, Monthly Meeting, OJT on RO-II, RO-VII, RO-VIII, Field Training on RO-IV-A, Bridge Inspection by Drone)
- Conduct Japan training (1st Batch: Nov1-16,2016)
- Post the project news on JICA web site (Apr, Jun, Sep, Dec, 2016)
- Conduct CWG meeting

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Conduct site survey of the pilot project on road slope stability implemented by DPWH (RO IV-A)
- Assist conducting field training on road slope stability (RO-I: Apr19-20, RO-II: Nov8-10)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-III, RO-V, RO-VI, RO-X)

* Updates in red color

- Monitor and evaluate situation of road maintenance management by ROs/DEOs (NCR, CAR, RO IV-A, RO-V, RO-VII, RO-XI)
- Review Pocketbook on Routine Maintenance and develop Road Slope Protection Manual

Output 2.

- Assist conducting seminars on bridge maintenance management by Sustainability Program (For RO-V,VIII: Mar9-11 @RO-V, For RO-II, III: May16-20 @RO-II)
- Conduct trainers training on bridge engineering inspection using NDT (RO-VII: Sep12-15)
- Correct current status of NDT for bridge engineering inspection in all ROs
- Conduct site survey of the pilot project on bridge repair implemented by DPWH (RO IV-A, RO-XI)
- Assist conducting field training on bridge repair (RO-CAR: Apr11-13, RO-I: Apr20-22, RO IV-A: Aug17-19, RO IV-B: Jan11-13)
- Conduct site survey to select repair method for pilot projects on bridge repair (NCR, RO-III, RO-IV-B, RO-V, RO-VI, RO-VIII, RO-X, RO-XIII)
- Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs (RO-I: 3DEOs, RO-X)
- Conduct checking of Bridge Condition Inspection Data on BMS (RO-II, RO-IVA, RO-V, RO-VI, RO-VIII, RO-X)
- Review and Amend on Bridge Repair Manual

Output 3.

- Prepare a draft manual for Special Bridge Maintenance and Management
- Conduct OJT on special bridge maintenance management (RO-III: Aug 9-10, RO-VII: Aug16-17)
- Assist conducting seminars on Bridge Engineering Inspection and Special Bridge by Sustainability Program (For RO-II, III: May23-27 @RO-II)
- Assist conducting OJT on special bridge inspection manual (RO-VIII: Aug30-Sep2)
- Assist implementing pilot projects on following special bridge repair;
  - Magapit Bridge (RO-II):
    - Collect data of past repair/ rehabilitation
    - Conduct field survey on the existing condition and geometric survey
    - Provide "Assessment of Overall Condition of Magapit Bridge and Rehabilitation Plan (Draft)"
    - Assist making the draft TOR for bidding

* Updates in red color

- Bamban Bridge (RO-III):
  - Conduct field survey on the existing condition
  - Assist preparation of tender document
- 1st Mandaue Mactan Bridge (RO-VII):
  - Conduct field survey on the existing condition
  - Assist preparation of tender document
- Diosdado Macapagal Bridge (RO-XIII):
  - Conduct field survey on the existing condition and cable vibration
  - Assist preparation of tender documents and conducting bidding for pavement rehabilitation work
  - Collect information about settlement of embankment and vibration of cable-stayed bridge in Japan
  - Conduct 4 times coordination meeting with CP, contractor and material supplier
  - Conduct a vibration survey of cables and making the draft TOR for "Engineering Inspection for Cable System of Diosdado Macapagal Bridge"
  - Conducting Special Bridge Inspection by using drone (RO-XIII: Nov 22, 2016)

Output4.

- Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved
- Discuss with DPWH and World Bank
- Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system
- Prepare procurement of database system equipment
- Bidding of contract of database system by out sourcing
- Collect necessary data of road slope protection and bridge repair project.

1-3 Achievement of Output

- Ongoing

1-4 Achievement of the Project Purpose

- Ongoing

1-5 Changes of Risks and Actions for Mitigation

- None

* Updates in red color

1-6 Progress of Actions undertaken by JICA

- None

1-7 Progress of Actions undertaken by DPWH

- None

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- None

2 Delay of Work Schedule and/or Problems (if any)

- Some counterparts cannot participate in project activities by reason of business due to having ordinary tasks and/or unable to obtain consent from their boss
- Budget for the Project has been cut
- TWG/CWG Engineers were not allowed to attend scheduled meetings (CAR and NIR)
- Some of the bridge repair projects implemented by non-pilot region showed poor quality and workmanship because they are not following the approved JICA-TCP manuals pursuant to Department Order No.94, series of 2014
- Shortage of Bridge Inspection Vehicle (BIV) for Luzon
- Delay of pilot projects on special bridge repair
- Necessity of detailed survey of cable vibration of Diosdado Macapagal Bridge
- Project News on DPWH web site had not been posted

3 Modification of the Project Implementation Plan

3-1 PDM

- Addition in activity 1.1:
  Recommended List of Equipment/Tools for road maintenance
- Addition in activity 2.1:
  Recommended List of Equipment/Tools for bridge maintenance.
- Addition in activity 2.2:
  Bridge Condition Data Review and Bridge Engineering Inspection.
- Addition in input by the Philippine side
  Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII)

* Updates in red color

3-2 PO

- **OJT on the pilot project on special bridge repair**
- **Activities for database system**
- **Training in Japan (1st, 2nd)**
- **Assignment schedule of JICA experts**

3-3 Other modifications on detailed implementation plan

- **Bridge/road slope inspection by drone**
  Special Bridge Inspection:Diosdado Makapagal Bridge(RO-XIII) on Nov22, 2016
  Special Bridge Inspection: Magapit Bridge (RO-II) in 2017
  Road Slope Inspection: Baguio (RO-CAR) in 2017
- **Field training on engineering inspection/special bridge inspection/load rating**
  Duration: 10 days
  Schedule: RO-III (Luzon area) and RO-XIII (Mindanao area) in 2017
  RO- VII (Visayas area) in 2018

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

March 20, 2017
Confirmed by:

DPWH	**JICA Team**
Aristarco M. Doroy	**Hideo NAGAO**
Assistant Director, Bureau of Construction	**Team Leader / Bridge Expert**
Project Manager DPWH-JICA TCP	**JICA Expert Team**

*** Updates in red color**

Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version 3
Dated 30 March, 2017

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH

Model Site: none

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal					
Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose					
Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured 2. Philippine government policy on road and bridge sector remains consistent		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs					
1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets			
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for road maintenance	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff - Counterpart personnel from Non-Pilot Regional Offices (NCR, I, IV-A, IV-B, V, VI, IX, X and XII) 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	1. Participation of C/Ps and other concerned engineers in Project activities is ensured.
1-2 Assist implementing pilot projects on road slope stability and relevant OJTs			
1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs			
1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for bridge maintenance.			
2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs Bridge Condition Data Review and Bridge Engineering Inspection			
2-3 Assist implementing pilot projects on bridge repair and relevant OJTs			
2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs			
2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
3-1 Develop special bridge maintenance and management manual			Pre-condition 1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay
3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs			
3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII)			
3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs			
3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved			<Issues and countermesures>
4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc) for developing the database system			
4-3 Develop the database system based on the basic plan			
4-4 Enter necessary data and make trial operations of the system at model RO			
4-5 Improve the system in consideration of the results of trial operations at model RO			
4-6 Prepare relevant manuals including operation manner			
4-7 Conduct seminars on the database system and its relevant manuals			

*Changes and updates in red color

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 3

Dated 20 March, 2017

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Inputs	Plan/Actual	2016 I (Feb Mar)	2016 II (Apr May Jun)	2016 III (Jul Aug Sep)	2016 IV (Oct Nov Dec)	2017 I (Jan Feb Mar)	2017 II (Apr May Jun)	2017 III (Jul Aug Sep)	2017 IV (Oct Nov Dec)	2018 I (Jan Feb Mar)	2018 II (Apr May Jun)	2018 III (Jul Aug Sep)	2018 IV (Oct Nov Dec)	2019 I (Jan Feb)	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Road Maintenance Management	Plan	■	■	■	■	■	■	■	■		■						
	Actual	■	■	■	■	■											
Road Slope Protection	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual		■		■	■											
Bridge Repair	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Special Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Special Bridge Repair (1)	Plan	■	■	■	■	■	■	■	■		■						
	Actual	■	■	■	■	■											
Special Bridge Repair (2)	Plan	■	■	■	■	■	■	■	■		■						
	Actual	■	■	■	■	■											
Database System	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Monitoring and Evaluation/Coordinator	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Equipment																	
Tools for OJT	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■	Addition of OJT equipments for special bridge maintenance		
	Actual	■	■	■	■	■											
Equipment for database system	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
Training in Japan																	
Training for Counterpart Personnel	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■											

Activities / Sub-Activities	Plan/Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Responsible Organization: Japan	Responsible Organization: DPWH	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for road maintenance	Plan	○	■	■	■	■											Assisted seminar in RO-II	
	Actual		■	■	■	■												
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs	Plan		○	■	■	■	■	■	■	■	■	■	■				Assisted field training in RO-I, RO-II	
	Actual		■	■	■	■												
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Conducted monitoring on NCR, CAR, RO IV-A, RO-VII, RO-XI, RO-V	
	Actual		■	■	■	■												
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions	Plan	○	○			■	■	■	■	■	■							
	Actual			■	■	■												
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for bridge maintenance	Plan	○	■	■	■	■											Assisted seminars in RO-V, II	
	Actual		■	■	■	■												
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs Bridge Conditon Data Review and Bridge Engineering Inspection	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Conducted trainers training in RO-VII Checking of BMS Data in RO-VI, RO-VIII, RO IV-A, RO-X, RO-V, RO-II	Shortage of BIV
	Actual		■	■	■	■												
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs	Plan			○	■	■	■	■	■	■	■	■	■				Assisted field training in CAR, RO-I, RO IV-A, RO IV-B	
	Actual			■	■	■												
2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Conducted monitoring on RO-I, RO-X	
	Actual		■	■	■	■												
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions	Plan	○		○					■	■	■	■	■					
	Actual																	

*Changes and updates in red color

Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.			
3.1 Develop special bridge maintenance and management manual		Prepared draft manual	
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs		Conducted OJT in RO-III, RO-VII	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII)		Assisted seminar in RO-II Conducted OJT in RO-VIII **Conducted beridge inspection using Drone on Diosado Mapaoagal Bridge (RO-XIII)**	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs			**Delay of pilot projects on special bridge repair**
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
Output 4: Database system to be utilized for road and bridge maintenance management is developed.			
4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved		Reviewed current filing	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc) for developing the database system		Prepared the basic plan	
4.3 Develop the database system based on the basic plan		Preparing procurement of equipment for database system	
4.4 Enter necessary data and make trial operations of the system at model RO		Collect necessary data of road slope protection and bridge repair project	
4.5 Improve the system in consideration of the results of trial operations at model RO			
4.6 Prepare relevant manuals including operation manner			
4.7 Conduct seminars on the database system and its relevant manuals.			
Duration / Phasing			

Monitoring Plan	Remarks	Issue	Solution
Monitoring			
Joint Coordinating Committee			
Set-up the Detailed Plan of Operation			
Submission of Monitoring Sheet			
Monitoring Mission from Japan			
Joint Monitoring			
Post Monitoring			
Reports/Documents			
Work Plan			
Project Final Report			
Public Relations			
JICA Web Site			
DPWH Web Site		Project News on DPWH web site had not been posted	

*Changes and updates in red color

TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version of the Sheet: Ver.4 (Term: Mar. 16, 2017 – Oct. 10, 2017)

Name: Hideo NAGAO

Title: Team Leader

Submission Date: 10 October, 2017

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- **Dispatch of JICA Experts**

  Team Leader/Bridge maintenance management (2016: Mar2-Apr8, Apr23-May21, Aug5-Sep30, Nov16-Dec20, 2017: Feb7-Mar28, May21-Jun6, Jul2-22, Aug22-Sep14, Oct4-10)

  Road maintenance management (2016: Mar28-Apr26, May13-Jun11, Aug8-31, 2017: Feb6-Mar11, Apr5-May9, Sep27-Oct10)

  Road Slope Protection (2016: Apr12-May20, Sep12-Oct5, Nov2-Dec1, 2017: Apr1-30, Aug1-30)

  Bridge repair (2016: Mar29-Apr27, Aug1-30, Nov6-Dec5, 2017: Jan4-Feb2, 2017: Apr16-May2, Jul2-14, Aug6-Sep4)

  Special bridge maintenance management (2016: Mar14-Apr12, May15-Jun13, Jul24-Sep6, 2017: Feb6-Mar7, Mar27-Apr10, May18-Jun12, Jul1-22, Sep9-Oct10)

  Special bridge repair (1) (2016: Mar14-Apr27, Jul5-Aug3, Oct17-Nov11, 2017: Jan26-Mar24, May2-31, Jul31-Aug9, Sep11-30)

  Special bridge repair (2) (2016: Mar14-Apr27, Aug4-Sep12, 2017: Feb13-Mar15, May16-Jun14, Aug23-Sep8)

  Database system (2016: Mar28-May7, Sep3-30, Oct28-Nov26, 2017: Jan30-Mar15, Jun30-Jul29, Oct2-10)

  Monitoring and evaluation/Coordinator (2016: Mar2-Apr23, Aug24-Sep30, Nov20-Dec17, 2017: Mar5-Apr3, Jul7-26, Aug11-Sep10, Oct4-10)

- **Purchased Equipment**

  4-Projector, 4-Copier machine, 4-Desktop Computer (CO, RO-II, RO-III, RO-XIII)

  2-Water Pressure, 2-Generator (RO-III, RO-VII, RO-II, RO-VIII)

*** Updates in red color**

3-Oxygen Detector (RO-II, RO-III, RO-VIII)
1-Angle Grinder (RO-II)

1-1-1 Philippine side

- Assignment of counterpart
  Project Manager
  Deputy Project Manager
  Project Coordinator
  Other Counterpart personnel from Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, NIR, RO-VIII, RO-XI, and RO-XIII)
  Counterpart Working Group for Database System
  Additional Counterpart personnel for Sustainability Program Team (young engineers)
  Counterpart personnel from Non-Pilot Regional Offices (NCR, RO-I, RO IV-A, RO IV-B, RO-V, RO-VI, RO-IX, RO-X and RO-XII)
- Office facilities
  Workspace in Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, RO-XI, RO-XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar 9-23, 2016)
- Approval of Work Plan (Mar 31, 2016)
- Approval of Amendment to the Work Plan (Apr 1, 2016)
- Conduct Joint Coordinating Committee Meeting (1st: Mar 31, 2016, 2nd: Sep 30, 2016, 3rd: Mar 15, 2017, 4th: Oct 10, 2017)
- Purchased and delivered equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2, 2016, Mar 2, Jul 4, 2017)
- Video recording on meetings/activities (CWG meeting, Monthly Meeting, OJT on RO-VII, RO-VIII, RO-XIII, Field Training on RO-IV-A, Bridge Inspection by Drone in RO-XIII, RO-II)
- Conduct Japan training (1st Batch: Nov 1-16, 2016, 2nd Batch: Sep 18-Oct 4, 2017)
- Post the project news on JICA web site (Apr, Jun, Sep, Dec, 2016, May, 2017)
- Post the project news on DPWH web site (Jun 24, 2016, Sep 22, 2017)
- Conduct CWG Meeting
- Conduct Monthly Meeting

* Updates in red color

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Conduct site survey of the pilot project on road slope stability implemented by DPWH (RO IV-A, RO-VII, RO IV-B)
- Assist conducting field training on road slope stability (RO-I: Apr19-20, RO-II: Nov8-10)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-III, RO-V, RO-VI, RO-X, RO-VIII, RO-XIII)
- Monitor and evaluate situation of road maintenance management by ROs/DEOs (NCR, CAR, RO IV-A, RO-V, RO-VII, RO-XI, RO-VI)
- Review Pocketbook on Routine Maintenance and develop Road Slope Protection Manual

Output 2.

- Assist conducting seminars on bridge maintenance management by Sustainability Program (For RO-V,VIII: Mar9-11 @RO-V, For RO-II, III: May16-20 @RO-II)
- Conduct trainers training on bridge engineering inspection using NDT (RO-VII: Sep12-15)
- Correct current status of NDT for bridge engineering inspection in all ROs
- Conduct site survey of the pilot project on bridge repair implemented by DPWH (RO IV-A, RO-XI, NIR, CAR, RO IV-B)
- Assist conducting field training on bridge repair (RO-CAR: Apr11-13, RO-I: Apr20-22, RO IV-A: Aug17-19, RO IV-B: Jan11-13, RO-VI: Aug23-25, RO-VIII: Aug30-31)
- Conduct site survey to select repair method for pilot projects on bridge repair (NCR, RO-III, RO-IV-B, RO-V, RO-VI, RO-VIII, RO-X, RO-XIII)
- Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs (RO-I: 3DEOs, RO-X, RO-VI: Negros 1stDEO)
- Conduct checking of Bridge Condition Inspection Data on BMS (RO-II, RO-IVA, RO-V, RO-VI, RO-VIII, RO-X, RO-I)
- Review and Amend on Bridge Repair Manual
- Conduct site survey for the field training on Bridge Repair (RO-XIII, RO-III, RO-VIII, RO-VI)
- Assist conducting the field training on Bridge Engineering Inspection and Load Rating (Luzon Area : Jul17-21)

* Updates in red color

Output 3.

- **Prepare a draft manual for Special Bridge Maintenance and Management**
- **Conduct OJT on Special Bridge Maintenance Management (RO-III: Aug 9-10, RO-VII: Aug16-17, 2016)**
- **Assist conducting seminars on Bridge Engineering Inspection and Special Bridge by Sustainability Program (For RO-II, III: May23-27 @RO-II)**
- **Assist conducting OJT on Special Bridge Inspection Manual (RO-VIII: Aug30-Sep2, 2016)**
- **Assist conducting OJT on Special Bridge Routine Maintenance (RO-VIII: Jul5-6, 2017)**
- **Assist conducting the field training on Special Bridge Inspection (Luzon Area: Jul12-14, 2017)**
- **Conduct Special Bridge Inspection by using drone (RO-XIII: Nov 22, 2016, RO-II: May 24, 2017)**
- **Assist implementing pilot projects on following special bridge repair;**
  - **Magapit Bridge (RO-II):**
    - **Collect data of past repair/ rehabilitation**
    - **Conduct field survey on the existing condition and geometric survey**
    - **Provide "Assessment of Overall Condition of Magapit Bridge and Rehabilitation Plan (Draft)"**
    - **Assist making the draft TOR for bidding**
    - **Assist bidding for the consultancy service**
  - **Bamban Bridge (RO-III):**
    - **Conduct field survey on the existing condition**
    - **Assist preparation of tender document**
    - **Assist implementation of repair work**
  - **1st Mandaue Mactan Bridge (RO-VII):**
    - **Conduct field survey on the existing condition**
    - **Assist preparation of tender document**
    - **Assist implementation of repair work**
    - **Conduct OJT on Special Bridge Repair (Sep 6-7, 2017)**
  - **Diosdado Macapagal Bridge (RO-XIII):**
    - **Conduct field survey on the existing condition and cable vibration**
    - **Assist preparation of tender documents and conducting bidding for pavement rehabilitation work**
    - **Collect information about settlement of embankment and vibration of cable-stayed bridge in Japan**

*** Updates in red color**

- Conduct 6 times coordination meeting with CP, contractor and material supplier
- Conduct a vibration survey of cables and making the draft TOR for "Engineering Inspection for Cable System of Diosdado Macapagal Bridge"
- Assist implementation of pavement rehabilitation work.
- Provide "Pavement Elevation Survey Report Diosdado Macapagal Cable Stayed Bridge"
- Conduct OJT on Special Bridge Repair Special Bridge Repair Pilot Project (May 30-31, 2017)
- Provide "Survey Report on Cable Anchorages of Diosdado Macapagal Bridge"

Output 4.

- Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved
- Discuss with DPWH and World Bank
- Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system
- Prepare procurement of database system equipment
- Bidding of contract of database system by out sourcing
- Collect necessary data of road slope protection and bridge repair project.
- Develop the database system based on the basic plan
- Bidding of contract of procurement for database system equipment

1-3 Achievement of Output

- Ongoing

1-4 Achievement of the Project Purpose

- Ongoing

1-5 Changes of Risks and Actions for Mitigation

- None

1-6 Progress of Actions undertaken by JICA

- None

* Updates in red color

1-7 Progress of Actions undertaken by DPWH

- None

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- None

2 Delay of Work Schedule and/or Problems (if any)

- Some counterparts cannot participate in project activities by reason of business due to having ordinary tasks and/or unable to obtain consent from their boss
- Budget for the Project has been cut
- TWG/CWG Engineers were not allowed to attend scheduled meetings (CAR and NIR)
- Some of the bridge repair projects implemented by non-pilot region showed poor quality and workmanship because they are not following the approved JICA-TCP manuals pursuant to Department Order No.94, series of 2014
- Shortage of Bridge Inspection Vehicle (BIV) for Luzon
- Delay of pilot projects on special bridge repair
- Necessity of detailed survey of cable vibration of Diosdado Macapagal Bridge
- ~~Project News on DPWH web site had not been posted~~

3 Modification of the Project Implementation Plan

3-1 PDM

- Addition in activity 1.1:
  Recommended List of Equipment/Tools for road maintenance
- Addition in activity 2.1:
  Recommended List of Equipment/Tools for bridge maintenance.
- Addition in activity 2.2:
  Bridge Condition Data Review and Bridge Engineering Inspection.
- Addition in input by the Philippine side
  Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII)
- Addition in activity 1.2:
  Conduct condition inspection of road slope protection in CAR using drone technology

* Updates in red color

- **Addition in activity 3.3:**
  Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology
- **Addition in input by the Japanese side**
  5. Video recording of Project activities
  6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan

3-2 PO

- **OJT on the pilot project on special bridge repair**
- **Activities for database system**
- **Training in Japan (1st, 2nd)**
- **Assignment schedule of JICA experts**
- **Add Video recording and Invitation to Observation Trip in Japan in Inputs**
- **Revise Sub- Activities in accordance to PDM**

3-3 Other modifications on detailed implementation plan

- **Bridge/road slope inspection by drone**
  Special Bridge Inspection:Diosdado Makapagal Bridge(RO-XIII) on Nov22, 2016
  Special Bridge Inspection: Magapit Bridge (RO-II) in 2017
  Road Slope Inspection: Baguio (RO-CAR) in 2017
- **Field training on engineering inspection/special bridge inspection/load rating**
  Duration: 10 days
  Schedule: RO-III (Luzon area) and RO-XIII (Mindanao area) in 2017
  RO- VII (Visayas area) in 2018

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

*** Updates in red color**

October 11, 2017
Confirmed by:

DPWH	**JICA Team**
Aristarco M. Doroy	**Hideo NAGAO**
Assistant Director, Bureau of Construction	**Team Leader / Bridge Expert**
Project Manager DPWH-JICA TCP	**JICA Expert Team**

*** Updates in red color**

Project Monitoring Sheet I （Revision of Project Design Matrix）

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version 4
Dated 10 October, 2017

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH **Model Site: none**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured. 2. Philippine government policy on road and bridge sector remains consistent.		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs 1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets			
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2. 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	1. Participation of C/Ps and other concerned engineers in Project activities is ensured.
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities 5. Video recording of Project activities 6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff - Counterpart personnel from Non-Pilot Regional Offices (NCR, I, IV-A, IV-B, V, VI, IX, X and XII) 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	
1-2 Assist implementing pilot projects on road slope stability and relevant OJTs Conduct condition inspection of road slope protection in CAR using drone technology			
1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs			
1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.			
2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.			
2-3 Assist implementing pilot projects on bridge repair and relevant OJTs			
2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs			
2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
3-1 Develop special bridge maintenance and management manual			Pre-condition 1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay
3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs			
3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII) Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology			
3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs			
3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved			<Issues and countermesures>
4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system			
4-3 Develop the database system based on the basic plan			
4-4 Enter necessary data and make trial operations of the system at model RO			
4-5 Improve the system in consideration of the results of trial operations at model RO			
4-6 Prepare relevant manuals including operation manner			
4-7 Conduct seminars on the database system and its relevant manuals			

***Changes and updates in red color**

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 4

Dated 10 October, 2017

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Inputs	Plan/Actual	2016 I (Feb Mar)	2016 II (Apr May Jun)	2016 III (Jul Aug Sep)	2016 IV (Oct Nov Dec)	2017 I (Jan Feb Mar)	2017 II (Apr May Jun)	2017 III (Jul Aug Sep)	2017 IV (Oct Nov Dec)	2018 I (Jan Feb Mar)	2018 II (Apr May Jun)	2018 III (Jul Aug Sep)	2018 IV (Oct Nov Dec)	2019 I (Jan Feb)	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan																
	Actual																
Road Maintenance Management	Plan																
	Actual																
Road Slope Protection	Plan																
	Actual																
Bridge Repair	Plan																
	Actual																
Special Bridge Maintenance Management	Plan																
	Actual																
Special Bridge Repair (1)	Plan																
	Actual																
Special Bridge Repair (2)	Plan																
	Actual																
Database System	Plan																
	Actual																
Monitoring and Evaluation/Coordinator	Plan																
	Actual																
Equipment																	
Tools for OJT	Plan														Addition of OJT equipments for special bridge		
	Actual																
Equipment for database system	Plan																
	Actual																
Training in Japan																	
Training for Counterpart Personnel	Plan																
	Actual																
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan																
	Actual																
Video Recording																	
Video recording of Project activities	Plan																
	Actual																
Invitation to Observation Trip in Japan																	
Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	Plan																
	Actual																

Activities / Sub-Activities	Plan/Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Responsible Organization: Japan	Responsible Organization: DPWH	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	Plan	○															Assisted seminar in RO-II	
	Actual																	
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs. Conduct condition inspection of road slope protection in CAR using drone technology	Plan		○														Assisted field training in RO-I, RO-II	
	Actual																	
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs.	Plan	○															Conducted monitoring on NCR, CAR, RO IV-A, RO-VII, RO-XI, RO-V, **RO-VI**	
	Actual																	
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan	○	○															
	Actual																	
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.	Plan	○															Assisted seminars in RO-V, RO-II	
	Actual																	
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Conditon Data Review and Bridge Engineering Inspection.	Plan	○															Conducted trainers training in RO-VII Checking of BMS Data in RO-VI, RO-VIII, RO IV-A, RO-X, RO-V, RO-II, **RO-I** **Assisted the field training on Bridge Engineering Inspection and Load Rating in Luzon area**	Shortage of BIV
	Actual																	
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.	Plan			○													Assisted field training in CAR, RO-I, RO IV-A, RO IV-B, **RO-VI, RO-VIII**	
	Actual																	
2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs.	Plan	○															Conducted monitoring on RO-I, RO-X	
	Actual																	
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan	○		○														
	Actual																	

*Changes and updates in red color

Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.

3.1 Develop special bridge maintenance and management manual.	Plan / Actual		Prepared draft manual	
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	Plan / Actual		Conducted OJT in RO-III, RO-VII, **RO-VIII**	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII). Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology.	Plan / Actual		Assisted seminar in RO-II Conducted OJT in RO-VIII Conducted beridge inspection using Drone on Diosado Macapagal Bridge (RO-XIII, **RO-II**) **Assisted the field training on Special Bridge Inspection in Luzon area**	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.	Plan / Actual			Delay of pilot projects on special bridge repair
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.	Plan / Actual			
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.	Plan / Actual			

Output 4: Database system to be utilized for road and bridge maintenance management is developed.

4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Plan / Actual		Reviewed current filing	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system.	Plan / Actual		Prepared the basic plan	
4.3 Develop the database system based on the basic plan.	Plan / Actual		**Concluded a contract of procurement of equipment by bidding.** **Completed information input of Bridge Repair and Road slope protection**	
4.4 Enter necessary data and make trial operations of the system at model RO.	Plan / Actual			
4.5 Improve the system in consideration of the results of trial operations at model RO.	Plan / Actual			
4.6 Prepare relevant manuals including operation manner.	Plan / Actual			
4.7 Conduct seminars on the database system and its relevant manuals.	Plan / Actual			
Duration / Phasing	Plan / Actual			

Monitoring Plan	Plan / Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Remarks	Issue	Solution
Monitoring																	
Joint Coordinating Committee	Plan / Actual																
Set-up the Detailed Plan of Operation	Plan / Actual																
Submission of Monitoring Sheet	Plan / Actual																
Monitoring Mission from Japan	Plan / Actual																
Joint Monitoring	Plan / Actual																
Post Monitoring	Plan / Actual																
Reports/Documents																	
Work Plan	Plan / Actual																
Project Final Report	Plan / Actual																
Public Relations																	
JICA Web Site	Plan / Actual																
DPWH Web Site	Plan / Actual																

*Changes and updates in red color

TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III
Version of the Sheet: Ver.5 (Term: Oct. 11, 2017 – Mar. 31, 2018)

Name: Hideo NAGAO
Title: Team Leader
Submission Date: 3 April, 2018

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- Dispatch of JICA Experts

Team Leader/Bridge maintenance management (2016: Mar2-Apr8, Apr23-May21, Aug5-Sep30, Nov16-Dec20, 2017: Feb7-Mar28, May21-Jun6, Jul2-22, Aug22-Sep14, Oct4-15, Oct24-Dec19, 2018: Jan6-25, Feb1-Mar2)
Road maintenance management (2016: Mar28-Apr26, May13-Jun11, Aug8-31, 2017: Feb6-Mar11, Apr5-May9, Sep27-Oct26, Nov8-Dec8, 2018: Jan10-Feb14)
Road Slope Protection (2016: Apr12-May20, Sep12-Oct5, Nov2-Dec1, 2017: Apr1-30, Aug1-30, Oct16-Nov10, Dec11-23, 2018:Jan15-Feb13, Mar14-31)
Bridge repair (2016: Mar29-Apr27, Aug1-30, Nov6-Dec5, 2017: Jan4-Feb2, 2017: Apr16-May2, Jul2-14, Aug6-Sep4, Nov5-Dec4, Jan7-Feb5, Mar1-30)
Special bridge maintenance management (2016: Mar14-Apr12, May15-Jun13, Jul24-Sep6, 2017: Feb6-Mar7, Mar27-Apr10, May18-Jun12, Jul1-22, Sep9-Oct13, Nov4-Dec9, 2018: Jan13-Feb25)
Special bridge repair (1) (2016: Mar14-Apr27, Jul5-Aug3, Oct17-Nov11, 2017: Jan26-Mar24, May2-31, Jul31-Aug9, Sep11-30, Nov9-Dec6, 2018: Jan23-Feb16)
Special bridge repair (2) (2016: Mar14-Apr27, Aug4-Sep12, 2017: Feb13-Mar15, May16-Jun14, Aug23-Sep8, Oct20-Dec15, 2018: Mar2-31)
Database system (2016: Mar28-May7, Sep3-30, Oct28-Nov26, 2017: Jan30-Mar15, Jun30-Jul29, Oct2-10, Nov26-Dec9, 2018: Feb2-28, Mar27-31)
Monitoring and evaluation/Coordinator (2016: Mar2-Apr23, Aug24-Sep30, Nov20-Dec17, 2017: Mar5-Apr3, Jul7-26, Aug11-Sep10, Nov16-Dec19, Feb14-Mar31)

* Updates in red color

- Purchased Equipment
  4-Projector, 4-Copier machine, 4-Desktop Computer (CO, RO-II, RO-III, RO-XIII)
  4-Water Pressure, 4-Generator (RO-III, RO-VII, RO-II, RO-VIII)
  4-Oxygen Detector (RO-II, RO-III, RO-VII, RO-VIII)
  1-Angle Grinder (RO-II)
  3-Copier machine for Database System (RO-CAR, RO-VII, RO-XI)
  4-Desktop Computer for Database System (CO, RO-CAR, RO-VII, RO-XI)

1-1-2 Philippine side

- Assignment of counterpart
  Project Manager
  Deputy Project Manager
  Project Coordinator
  Other Counterpart personnel from Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, NIR, RO-VIII, RO-XI, and RO-XIII)
  Counterpart Working Group for Database System
  Additional Counterpart personnel for Sustainability Program Team (young engineers)
  Counterpart personnel from Non-Pilot Regional Offices (NCR, RO-I, RO IV-A, RO IV-B, RO-V, RO-VI, RO-IX, RO-X and RO-XII)
- Office facilities
  Workspace in Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, RO-XI, RO-XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar 9-23, 2016)
- Approval of Work Plan (Mar 31, 2016)
- Approval of Amendment to the Work Plan (Apr 1, 2016)
- Conduct Joint Coordinating Committee Meeting (1st: Mar 31, 2016, 2nd: Sep 30, 2016, 3rd: Mar 15, 2017, 4th: Oct 10, 2017, 5th: Apr 3, 2018)
- Purchased and delivered equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2, 2016, Mar 2, Jul 4, 2017)
- Purchased and delivered equipment for Database System (CO, RO-CAR, RO-VII, RO-XI)
- Video recording on meetings/activities (CWG meeting, Monthly Meeting, OJT on RO-VII, RO-VIII, RO-XIII, Field Training on RO-IV-A, Bridge Inspection by Drone in RO-XIII, RO-II, Road Slope Inspection by Drone in RO-CAR)

* Updates in red color

- Conduct Japan training (1st Batch: Nov 1-16, 2016, 2nd Batch: Sep 18-Oct 4, 2017)
- Conduct Observation Trip for Bridge Maintenance Equipment in Japan (Oct 2017)
- Conduct Third Country training (Dec 2017)
- Post the project news on JICA web site (Apr, Jun, Sep, Dec, 2016, May, Oct, Nov, Dec, 2017, Jan, 2018)
- Post the project news on DPWH web site (Jun 24, 2016, Sep 22, 2017)
- Conduct CWG Meeting
- Conduct Monthly Meeting
- Conduct TWG Meeting

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Review the pre/post evaluation of the seminar on road maintenance management by Sustainability Program
- Conduct the observation travel for road and bridge maintenance equipment/tools in Japan
- Conduct site survey of the pilot project on road slope stability implemented by DPWH (RO IV-A, RO-VII, RO IV-B)
- Assist conducting field training on road slope stability (RO-I: Apr19-20, RO-II: Nov8-10)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-III, RO-V, RO-VI, RO-X, RO-VIII, RO-XIII, RO-X, RO-CAR, RO IV-A, RO IV-B, RO-I)
- Monitor and evaluate situation of road maintenance management by ROs/DEOs (NCR, CAR, RO IV-A, RO-V, RO-VII, RO-XI, RO-VI)
- Review Pocketbook on Routine Maintenance and develop Road Slope Protection Manual
- Conduct Road Slope Inspection by using drone (RO-CAR)
- Conduct Workshop for Road Slope Protection Manual
- Prepare Draft Manual of Road Slope Protection Manual

Output 2.

- Assist conducting seminars on bridge maintenance management by Sustainability Program (For RO-V,VIII: Mar9-11 @RO-V, For RO-II, III: May16-20 @RO-II)
- Review of Accomplish Report and pre/post evaluation of the seminar on bridge

* Updates in red color

maintenance management by Sustainability Program
- Assist Re-echo training on bridge maintenance management by each RO (RO-CAR)
- Conduct the observation travel for road and bridge maintenance equipment/tools in Japan
- Conduct trainers training on bridge engineering inspection using NDT (RO-VII: Sep12-15)
- Correct current status of NDT for bridge engineering inspection in all ROs
- Conduct site survey of the pilot project on bridge repair implemented by DPWH (RO IV-A, RO-XI, NIR, CAR, RO IV-B, RO-I, RO-III)
- Assist conducting field training on bridge repair (RO-CAR: Apr11-13, RO-I: Apr20-22, RO IV-A: Aug17-19, RO IV-B: Jan11-13, RO-VI: Aug23-25, RO-VIII: Aug30-31, RO-XIII: Nov7-9, RO-III: Nov15-17, RO-V: Jan10-12, NCR: Jan24-26)
- Conduct site survey to select the site and repair method for pilot projects on bridge repair (NCR, RO-III, RO-IV-B, RO-V, RO-VI, RO-VIII, RO-X, RO-XIII, RO-II, RO-I, RO-CAR, RO IV-A)
- Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs (RO-I: 3DEOs, RO-X, RO-VI: Negros 1stDEO, RO IV-B: Mindoro Oriental DEO)
- Conduct checking of Bridge Condition Inspection Data on BMS (RO-II, RO-IVA, RO-V, RO-VI, RO-VIII, RO-X, RO-I, RO-CAR, RO-III)
- Review and Amend on Bridge Repair Manual
- Assist conducting the field training on Bridge Engineering Inspection and Load Rating (Luzon Area : Jul17-21, Visayas Area: Nov13-17)

Output 3.
- Conduct Workshop for Routine Maintenance Manual for Special Bridge
- Prepare Draft Manual of Routine Maintenance Manual for Special Bridge
- Conduct OJT on Special Bridge Maintenance Management (RO-III: Aug 9-10, RO-VII: Aug16-17, 2016)
- Assist conducting seminars on Bridge Engineering Inspection and Special Bridge by Sustainability Program (For RO-II, III: May23-27 @RO-II)
- Assist conducting OJT on Special Bridge Inspection Manual (RO-VIII: Aug30-Sep2, 2016)
- Assist conducting OJT on Special Bridge Routine Maintenance (RO-VIII: Jul5-6, 2017)
- Assist conducting the field training on Special Bridge Inspection (Luzon Area: Jul12-14, 2017, Visayas Area: Nov8-10)

* Updates in red color

- Conduct Special Bridge Inspection by using drone (RO-XIII: Nov 22, 2016, RO-II: May 24, 2017)
- Assist Re-echo training on special bridge inspection by each RO (RO-II, RO-III)
- Assist implementing pilot projects on following special bridge repair;
  - Magapit Bridge (RO-II):
    - Collect data of past repair/ rehabilitation
    - Conduct field survey on the existing condition and geometric survey
    - Provide "Assessment of Overall Condition of Magapit Bridge and Rehabilitation Plan (Draft)"
    - Assist making the draft TOR for bidding
    - Assist bidding for the consultancy service
    - Conduct coordination meeting with DPWH, contractor and consulting firm
  - Bamban Bridge (RO-III):
    - Conduct field survey on the existing condition
    - Assist preparation of tender document
    - Assist implementation of repair work
  - 1st Mandaue Mactan Bridge (RO-VII):
    - Conduct field survey on the existing condition
    - Assist preparation of tender document
    - Assist implementation of repair work
    - Conduct OJT on Special Bridge Repair (Sep 6-7, 2017)
  - Diosdado Macapagal Bridge (RO-XIII):
    - Conduct field survey on the existing condition and cable vibration
    - Assist preparation of tender documents and conducting bidding for pavement rehabilitation work
    - Collect information about settlement of embankment and vibration of cable-stayed bridge in Japan
    - Conduct 6 times coordination meeting with CP, contractor and material supplier
    - Conduct a vibration survey of cables and making the draft TOR for "Engineering Inspection for Cable System of Diosdado Macapagal Bridge"
    - Assist implementation of pavement rehabilitation work.
    - Provide "Pavement Elevation Survey Report Diosdado Macapagal Cable Stayed Bridge"
    - Conduct OJT on Special Bridge Repair Pilot Project (May 30-31, 2017)
    - Provide "Survey Report on Cable Anchorages of Diosdado Macapagal Bridge"

* Updates in red color

Output 4.

- **Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved**
- **Discuss with DPWH and World Bank**
- **Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system**
- **Prepare procurement of database system equipment**
- **Bidding of contract of database system by out sourcing**
- **Collect necessary data of road slope protection and bridge repair project.**
- **Develop the database system based on the basic plan**
- **Bidding of contract of procurement for database system equipment**
- **Conduct the trial input in model RO (RO-VII)**
- **Purchased equipment for database system (Copier machine, Desktop PC, Servers, Software)**
- **Installed equipment for database system (CAR,RO-VII,RO-XI)**

1-3 Achievement of Output

- **Ongoing**

1-4 Achievement of the Project Purpose

- **Ongoing**

1-5 Changes of Risks and Actions for Mitigation

- **None**

1-6 Progress of Actions undertaken by JICA

- **None**

1-7 Progress of Actions undertaken by DPWH

- **None**

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

- **None**

*** Updates in red color**

2 Delay of Work Schedule and/or Problems (if any)

- Some counterparts cannot participate in project activities by reason of business due to having ordinary tasks and/or unable to obtain consent from their boss
- ~~Budget for the Project has been cut~~
- TWG/CWG Engineers were not allowed to attend scheduled meetings (CAR)
  > RDs agreed to let CWG members attend/participate JICA activities
- Some of the bridge repair projects implemented by non-pilot region showed poor quality and workmanship because they are not following the approved JICA-TCP manuals pursuant to Department Order No.94, series of 2014
- Shortage of Bridge Inspection Vehicle (BIV) for Luzon
  > DPWH agreed to purchase BIV. JICA team will support to purchase
- Delay of pilot projects on special bridge repair, road slope protection
- Necessity of detailed survey of cable vibration of Diosdado Macapagal Bridge
- ~~Project News on DPWH web site had not been posted~~
- Restriction of travelling to Mindanao area for Japanese expert due to safety reason

3 Modification of the Project Implementation Plan

3-1 PDM

- Addition in activity 1.1:
  Recommended List of Equipment/Tools for road maintenance
- Addition in activity 2.1:
  Recommended List of Equipment/Tools for bridge maintenance.
- Addition in activity 2.2:
  Bridge Condition Data Review and Bridge Engineering Inspection.
- Addition in input by the Philippine side
  Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII)
- Addition in activity 1.2:
  Conduct condition inspection of road slope protection in CAR using drone technology
- Addition in activity 3.3:
  Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology
- Addition in input by the Japanese side
  5. Video recording of Project activities
  6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan

* Updates in red color

3-2 PO

- **OJT on the pilot project on special bridge repair**
- **Activities for database system**
- **Training in Japan (1st, 2nd)**
- **Assignment schedule of JICA experts**
- **Add Video recording and Invitation to Observation Trip in Japan in Inputs**
- **Revise Sub- Activities in accordance to PDM**

3-3 Other modifications on detailed implementation plan

- **Bridge/road slope inspection by drone**
  Special Bridge Inspection:Diosdado Makapagal Bridge(RO-XIII) on Nov22, 2016
  Special Bridge Inspection: Magapit Bridge (RO-II) in 2017
  Road Slope Inspection: Baguio (RO-CAR) in 2018 .
- **Field training on engineering inspection/special bridge inspection/load rating**
  Duration: 8-10 days
  Schedule: RO-III (Luzon area) and RO-XIII (Mindanao area) in 2017
  RO- VII (Visayas area) in 2018

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

April 3, 2018
Confirmed by:

DPWH	**JICA Team**
Aristarco M. Doroy	**Hideo NAGAO**
Assistant Director, Bureau of Construction	**Team Leader / Bridge Expert**
Project Manager DPWH-JICA TCP	**JICA Expert Team**

*** Updates in red color**

Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version 5
Dated 03 April, 2018

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH **Model Site: none**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured 2. Philippine government policy on road and bridge sector remains consistent		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs 1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets		8 pilot projects on bridge repair are completed	
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2. 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for road maintenance	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities 5. Video recording of Project activities 6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff - Counterpart personnel from Non-Pilot Regional Offices (NCR, I, IV-A, IV-B, V, VI, IX, X and XII) 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	1. Participation of C/Ps and other concerned engineers in Project activities is ensured
1-2 Assist implementing pilot projects on road slope stability and relevant OJTs Conduct condition inspection of road slope protection in CAR using drone technology			
1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs			
1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs Recommended List of Equipment/Tools for bridge maintenance			
2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs Bridge Condition Data Review and Bridge Engineering Inspection			
2-3 Assist implementing pilot projects on bridge repair and relevant OJTs			
2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs			
2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
3-1 Develop special bridge maintenance and management manual			Pre-condition
3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs			1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay
3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII) Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology			
3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs			
3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved			<Issues and countermesures>
4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc) for developing the database system			
4-3 Develop the database system based on the basic plan			
4-4 Enter necessary data and make trial operations of the system at model RO			
4-5 Improve the system in consideration of the results of trial operations at model RO			
4-6 Prepare relevant manuals including operation manner			
4-7 Conduct seminars on the database system and its relevant manuals			

*Changes and updates in red color

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 5

Dated 3 April, 2018

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Inputs	Plan / Actual	2016 I (Feb–Dec)	2016 II (Mar–Dec)	2016 III (Apr–Dec)	2016 IV (May–Dec)	2017 I (Jan–Dec)	2017 II (Feb–Dec)	2017 III (Apr–Dec)	2017 IV (May–Dec)	2018 I (Jan–Dec)	2018 II (Mar–Dec)	2018 III (May–Dec)	2018 IV (Jul–Dec)	2019 I (Jan–Feb)	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Road Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Road Slope Protection	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Bridge Repair	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Special Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Special Bridge Repair (1)	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Special Bridge Repair (2)	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Database System	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Monitoring and Evaluation/Coordinator	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Equipment																	
Tools for OJT	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■	Addition of OJT equipments for special bridge		
	Actual	■	■	■	■	■	■	■	■	■	■						
Equipment for database system	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Training in Japan																	
Training for Counterpart Personnel	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Video Recording																	
Video recording of Project activities	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						
Invitation to Observation Trip in Japan																	
Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■						

Activities / Sub-Activities		2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Responsible Organization: Japan	Responsible Organization: DPWH	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Assisted seminar in RO-II	
	Actual		■	■	■	■	■	■	■	■								
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs. Conduct condition inspection of road slope protection in CAR using drone technology.	Plan		○	■	■	■	■	■	■	■	■	■	■				Assisted field training in RO-I, RO-II	
	Actual			■	■	■	■	■	■	■	■							
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs.	Plan		○	■	■	■	■	■	■	■	■	■	■				Conducted monitoring on NCR, CAR, RO IV-A, RO-VII, RO-XI, RO-V, RO-VI	
	Actual			■	■	■	■	■	■	■	■							
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan		○	○	■	■	■	■	■	■	■	■	■				Prepared Draft Manual	
	Actual				■	■	■	■	■	■	■							
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Assisted seminars in RO-V, RO-II	
	Actual		■	■	■	■	■	■	■	■								
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Conditon Data Review and Bridge Engineering Inspection.	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Conducted trainers training in RO-VII Checking of BMS Data in RO-VI, RO-VIII, RO IV-A, RO-X, RO-V, RO-II, RO-I Assisted the field training on Bridge Engineering Inspection and Load Rating in Luzon area, Visayas Area Assisted Re-active Training in RO-CAR	Shortage of BIV > DPWH agreed to purchase
	Actual		■	■	■	■	■	■	■	■								
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.	Plan			○	■	■	■	■	■	■	■	■	■				Assisted field training in CAR, RO-I, RO IV-A, RO IV-B, RO-VI, RO-VIII, RO-XIII, RO- III, RO-V, NCR	
	Actual			■	■	■	■	■	■	■								
2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs.	Plan	○	■	■	■	■	■	■	■	■	■	■	■				Conducted monitoring on RO-I, RO-X, RO IV-B, RO-III	
	Actual		■	■	■	■	■	■	■	■								
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan	○		○	■	■	■	■	■	■	■	■	■					
	Actual				■	■	■	■	■	■	■							

*Changes and updates in red color

Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.				
3.1 Develop special bridge maintenance and management manual.	Plan / Actual		Prepared draft manual	
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.	Plan / Actual		Conducted OJT in RO-III, RO-VII, RO-VIII	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII). Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology.	Plan / Actual		Assisted seminar in RO-II Conducted OJT in RO-VIII Conducted beridge inspection using Drone on Diosado Macapagal Bridge (RO-XIII, RO-II) Assisted the field training on Special Bridge Inspection in Luzon area, Visayas Area Assisted Re-echo training in RO-II, III	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.	Plan / Actual		Conducted OJT in RO-XIII, RO-VII	Delay of pilot projects on special bridge repair
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.	Plan / Actual			
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.	Plan / Actual			
Output 4: Database system to be utilized for road and bridge maintenance management is developed.				
4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.	Plan / Actual		Reviewed current filing	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system.	Plan / Actual		Prepared the basic plan	
4.3 Develop the database system based on the basic plan.	Plan / Actual		Concluded a contract of procurement of equipment by bidding. Completed information input of Bridge Repair and Road slope protection	
4.4 Enter necessary data and make trial operations of the system at model RO.	Plan / Actual		Conducted Trial Input (Dec 4 -6, 2017) in RO-VII	
4.5 Improve the system in consideration of the results of trial operations at model RO.	Plan / Actual			
4.6 Prepare relevant manuals including operation manner.	Plan / Actual			
4.7 Conduct seminars on the database system and its relevant manuals.	Plan / Actual			
Duration / Phasing	Plan / Actual			

Monitoring Plan	Plan / Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Remarks	Issue	Solution
Monitoring																	
Joint Coordinating Committee	Plan / Actual																
Set-up the Detailed Plan of Operation	Plan / Actual																
Submission of Monitoring Sheet	Plan / Actual																
Monitoring Mission from Japan	Plan / Actual																
Joint Monitoring	Plan / Actual																
Post Monitoring	Plan / Actual																
Reports/Documents																	
Work Plan	Plan / Actual																
Project Final Report	Plan / Actual																
Public Relations																	
JICA Web Site	Plan / Actual																
DPWH Web Site	Plan / Actual																

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TO Representative of JICA PHILIPPINES OFFICE

PROJECT MONITORING SHEET

Project Title : The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version of the Sheet: Ver.~~5~~ 6 (Term: ~~Oct. 11, 2017 – Mar. 31, 2018~~ Apr. 01, 2018 ~ Oct. 25, 2018)

Name: Hideo NAGAO

Title: Team Leader

Submission Date: 26 October, 2018

I. Summary

1 Progress

1-1 Progress of Inputs

1-1-1 The Japanese Side

- **Dispatch of JICA Experts**

Team Leader/Bridge maintenance management (2016: Mar2-Apr8, Apr23-May21, Aug5-Sep30, Nov16-Dec20, 2017: Feb7-Mar28, May21-Jun6, Jul2-22, Aug22-Sep14, Oct4-15, Oct24-Dec19, 2018: Jan6-25, Feb1-Mar2, April1-May2, Jun17-Aug18, Sep29-Oct26)

Road maintenance management (2016: Mar28-Apr26, May13-Jun11, Aug8-31, 2017: Feb6-Mar11, Apr5-May9, Sep27-Oct26, Nov8-Dec8, 2018: Jan10-Feb14, Jun25-Jul14)

Road Slope Protection (2016: Apr12-May20, Sep12-Oct5, Nov2-Dec1, 2017: Apr1-30, Aug1-30, Oct16-Nov10, Dec11-23, 2018:Jan15-Feb13, Mar14-Apr12, Jun12-Jul11, Sep1-Oct25)

Bridge repair (2016: Mar29-Apr27, Aug1-30, Nov6-Dec5, 2017: Jan4-Feb2, 2017: Apr16-May2, Jul2-14, Aug6-Sep4, Nov5-Dec4, Jan7-Feb5, Mar1-30, May15-Jun13, Oct1-23)

Special bridge maintenance management (2016: Mar14-Apr12, May15-Jun13, Jul24-Sep6, 2017: Feb6-Mar7, Mar27-Apr10, May18-Jun12, Jul1-22, Sep9-Oct13, Nov4-Dec9, 2018: Jan13-Feb25, Apr1-14, Jul15-Aug1, Sep1-30)

Special bridge repair (1) (2016: Mar14-Apr27, Jul5-Aug3, Oct17-Nov11, 2017: Jan26-Mar24, May2-31, Jul31-Aug9, Sep11-30, Nov9-Dec6, 2018: Jan23-Feb16, Apr9-May1, Jul17-Aug3)

Special bridge repair (2) (2016: Mar14-Apr27, Aug4-Sep12, 2017: Feb13-Mar15, May16-Jun14, Aug23-Sep8, Oct20-Dec15, 2018: Mar2-May10)

Database system (2016: Mar28-May7, Sep3-30, Oct28-Nov26, 2017: Jan30-

*** Updates in red color**

Mar15, Jun30-Jul29, Oct2-10, Nov26-Dec9, 2018: Feb2-28, Mar27-May8, Jul9-Aug10, Oct2-Oct26)

Monitoring and evaluation/Coordinator (2016: Mar2-Apr23, Aug24-Sep30, Nov20-Dec17, 2017: Mar5-Apr3, Jul7-26, Aug11-Sep10, Nov16-Dec19, Feb14-Apr5, Jul17-Aug15, Oct4-18)

- Purchased Equipment

  4-Projector, 4-Copier machine, 4-Desktop Computer (CO, RO-II, RO-III, RO-XIII)

  5-Water Pressure, 5-Generator (RO-III, RO-VII, RO-II, RO-VIII, RO-XIII)

  5-Oxygen Detector (RO-II, RO-III, RO-VII, RO-VIII, RO-XIII)

  1-Angle Grinder (RO-II)

  3-Copier machine for Database System (RO-CAR, RO-VII, RO-XI)

  4-Desktop Computer for Database System (CO, RO-CAR, RO-VII, RO-XI)

  1-Data Store Server, 1-Application Server with SQL Server

  1-File Compression Software for Database Server

1-1-2 Philippine side

- Assignment of counterpart

  Project Manager

  Deputy Project Manager

  Project Coordinator

  Other Counterpart personnel from Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, NIR, RO-VIII, RO-XI, and RO-XIII)

  Counterpart Working Group for Database System

  Additional Counterpart personnel for Sustainability Program Team (young engineers)

  Counterpart personnel from Non-Pilot Regional Offices (NCR, RO-I, RO IV-A, RO IV-B, RO-V, RO-VI, RO-IX, RO-X and RO-XII)

- Office facilities

  Workspace in Central Office and Regional Offices (CAR, RO-II, RO-III, RO-VII, RO-XI, RO-XIII)

1-2 Progress of Activities

Administrative activities

- Conduct the baseline survey (Mar 9-23, 2016)
- Approval of Work Plan (Mar 31, 2016)
- Approval of Amendment to the Work Plan (Apr 1, 2016)
- Conduct Joint Coordinating Committee Meeting (1st: Mar 31, 2016, 2nd: Sep 30, 2016, 3rd: Mar 15, 2017, 4th: Oct 10, 2017, 5th: Apr 3, 2018)

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- Purchased and delivered equipment (Mar 8, Apr 11, 18, 20, Aug 10, 17, Sep 2, 2016, Mar 2, Jul 4, 2017, Jul 3, 2018)
- Purchased and delivered equipment for Database System (CO, RO-CAR, RO-VII, RO-XI)
- Purchased and delivered the Database Server (CO)
- Video recording on meetings/activities (CWG meeting, Monthly Meeting, JCC meeting, OJT on RO-II, RO-III, RO-VII, RO-VIII, RO-XIII, Field Training on RO-IV-A, Bridge Inspection by Drone in RO-XIII, RO-II, Road Slope Inspection by Drone in RO-CAR, OJT on Database)
- Conduct Japan training (1st Batch: Nov 1-16, 2016, 2nd Batch: Sep 18-Oct 4, 2017, 3rd Batch: Sep 2-15, 2018)
- Conduct Observation Trip for Bridge Maintenance Equipment in Japan (Oct 2017)
- Conduct Third Country training (Dec 2017)
- Post the project news on JICA web site (Apr, Jun, Sep, Dec, 2016, May, Oct, Nov, Dec, 2017, Jan, May, Aug 2018)
- Post the project news on DPWH web site (Jun 2016, Sep 2017, Feb 2018)
- Conduct CWG Meeting
- Conduct Monthly Meeting
- Conduct TWG Meeting

Output 1.

- Assist conducting seminar on road maintenance management by Sustainability Program (For RO-II, III: May 16-20 @RO-II)
- Review the pre/post evaluation of the seminar on road maintenance management by Sustainability Program
- Conduct the observation travel for road and bridge maintenance equipment/tools in Japan
- Conduct site survey and monitoring of the pilot project on road slope stability implemented by DPWH (RO IV-A, RO-VII, RO IV-B, RO-III, RO-II, RO-I, RO-V)
- Assist conducting field training on road slope stability (RO-I: Apr19-20 2017, RO-II: Nov8-10, RO-VIII: Mar21-23 2018, RO-V: Apr4-6, RO-XIII: Jun26-28)
- Conduct site inspection/validation of the proposed pilot projects on road slope stability (RO-III, RO-V, RO-VI, RO-X, RO-VIII, RO-XIII, RO-X, RO-CAR, RO IV-A, RO IV-B, RO-I, RO-II)
- Monitor and evaluate situation of road maintenance management by ROs/DEOs (NCR, CAR, RO IV-A, RO-V, RO-VII, RO-XI, RO-VI, RO-VIII, RO-I)
- Review Pocketbook on Routine Maintenance and develop Road Slope

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Protection Manual

- Conduct Road Slope Inspection by using drone (RO-CAR)
- Conduct Workshop for Road Slope Protection Manual
- Prepare Draft Manual of Road Slope Protection Manual

Output 2.

- Assist conducting seminars on bridge maintenance management by Sustainability Program (For RO-V,VIII: Mar9-11 @RO-V, For RO-II, III: May16-20 @RO-II)
- Review of Accomplish Report and pre/post evaluation of the seminar on bridge maintenance management by Sustainability Program
- Conduct the observation travel for road and bridge maintenance equipment/tools in Japan
- Conduct trainers training on bridge engineering inspection using NDT (RO-VII: Sep12-15)
- Correct current status of NDT for bridge engineering inspection in all ROs
- Conduct site survey and monitoring of the pilot project on bridge repair implemented by DPWH (RO IV-A, RO-XI, NIR, CAR, RO IV-B, RO-I, RO-III, RO-II, RO-VI, RO-VIII, RO-V, RO-VII)
- Assist conducting field training on bridge repair (RO-CAR: Apr11-13, RO-I: Apr20-22, RO IV-A: Aug17-19, RO IV-B: Jan11-13, RO-VI: Aug23-25, RO-VIII: Aug30-31, RO-XIII: Nov7-9, RO-III: Nov15-17, RO-V: Jan10-12, NCR: Jan24-26)
- Conduct site survey to select the site and repair method for pilot projects on bridge repair (NCR, RO-III, RO-IV-B, RO-V, RO-VI, RO-VIII, RO-X, RO-XIII, RO-II, RO-I, RO-CAR, RO IV-A)
- Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs (RO-I: 3DEOs, RO-X, RO-VI: Negros 1stDEO, RO IV-B: Mindoro Oriental DEO, RO-III: 4DEOs, NCR, RO-II: Cagayan 3rdDEO, RO-V: 3DEOs)
- Conduct checking of Bridge Condition Inspection Data on BMS (RO-II, RO-IVA, RO-V, RO-VI, RO-VIII, RO-X, RO-I, RO-CAR, RO-III, NCR)
- Review and Amend on Bridge Repair Manual
- Finalized Addendum to Bridge Repair Manual
- Assist conducting the field training on Bridge Engineering Inspection and Load Rating (Luzon Area : Jul17-21, Visayas Area: Nov13-17 2017, Mindanao Area: Apr10-17, 2018)
- Assist Re-echo training on Bridge Engineering Inspection by each RO (RO-CAR, RO-VII, RO-VIII, RO-VI, RO-X, RO-XI)

* Updates in red color

Output 3.

- **Conduct Workshop for Routine Maintenance Manual for Special Bridge**
- **Prepare Draft Manual of Routine Maintenance Manual for Special Bridge**
- **Conduct OJT on Special Bridge Maintenance Management (RO-III: Aug 9-10, RO-VII: Aug16-17, 2016)**
- **Assist conducting seminars on Bridge Engineering Inspection and Special Bridge by Sustainability Program (For RO-II, III: May23-27 @RO-II)**
- **Assist conducting OJT on Special Bridge Inspection Manual (RO-VIII: Aug30-Sep2, 2016)**
- **Assist conducting OJT on Special Bridge Routine Maintenance (RO-VIII: Jul5-6, 2017)**
- **Assist conducting the field training on Special Bridge Inspection (Luzon Area: Jul12-14, 2017, Visayas Area: Nov8-10)**
- **Conduct Special Bridge Inspection by using drone (RO-XIII: Nov 22, 2016, RO-II: May 24, 2017)**
- **Assist Re-echo training on special bridge inspection by each RO (RO-II, RO-III, RO-VII, RO-VIII, RO-VI, RO-X, RO-XI)**
- **Development of Special Bridge Routine Maintenance Manual and finalized Addendum to Special Bridge Inspection Manuals Special Bridge Inspection**
- **Assist implementing pilot projects on following special bridge repair;**
  - **Magapit Bridge (RO-II):**
    - **Collect data of past repair/ rehabilitation**
    - **Conduct field survey on the existing condition and geometric survey**
    - **Provide "Assessment of Overall Condition of Magapit Bridge and Rehabilitation Plan (Draft)"**
    - **Assist making bidding documents**
    - **Assist bidding for the consultancy service**
    - **Conduct coordination meeting with DPWH, contractor and consulting firm**
    - **Assist implementation of repair work**
    - **Provide "Proposal for Rehabilitation Work after completion of TCP3"**
    - **Conduct OJT on Special Bridge Repair (Jul 23-24, 2018)**
  - **Bamban Bridge (RO-III):**
    - **Conduct field survey on the existing condition**
    - **Assist preparation of tender document**
    - **Assist implementation of repair work**
    - **Conduct OJT on Special Bridge Repair (Apr 19-20, 2018)**
    - **Conduct the detailed inspection for cracks (outside of contract of the pilot**

*** Updates in red color**

project)

- 1st Mandaue Mactan Bridge (RO-VII):
  - Conduct field survey on the existing condition
  - Assist preparation of tender document
  - Assist implementation of repair work
  - Conduct OJT on Special Bridge Repair (Sep 6-7, 2017)
- Diosdado Macapagal Bridge (RO-XIII):
  - Conduct field survey on the existing condition and cable vibration
  - Assist preparation of tender documents and conducting bidding for pavement rehabilitation work
  - Collect information about settlement of embankment and vibration of cable-stayed bridge in Japan
  - Conduct 6 times coordination meeting with CP, contractor and material supplier
  - Conduct a vibration survey of cables and making the draft TOR for "Engineering Inspection for Cable System of Diosdado Macapagal Bridge"
  - Assist implementation of pavement rehabilitation work.
  - Provide "Pavement Elevation Survey Report Diosdado Macapagal Cable Stayed Bridge"
  - Conduct OJT on Special Bridge Repair Pilot Project (May 30-31, 2017)
  - Provide "Survey Report on Cable Anchorages of Diosdado Macapagal Bridge"
  - Conduct the detailed inspection for cracks caused by overloading vehicle
- Conduct the survey for the damages on Marcelo Fernan Bridge

Output 4.

- Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved
- Discuss with DPWH and World Bank
- Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system
- Prepare procurement of database system equipment
- Bidding of contract of database system by out sourcing
- Collect necessary data of road slope protection and bridge repair project.
- Develop the database system based on the basic plan
- Bidding of contract of procurement for database system equipment
- Conduct the trial input in model RO (RO-VII)
- Purchased equipment for database system (Copier machine, Desktop PC,

Servers, Software)
- Installed equipment for database system (CAR,RO-VII,RO-XI)
- Purchased and installed database servers with software to DPWH server room
- Conduct seminars in CO for C/Ps of all RO
- Conduct seminars to assist input in model regions (RO-CAR, RO-VII, RO-XI)

1-3 Achievement of Output
- Ongoing
- The 2 new manuals already approved manuals will be printed next month
- For the 2 addendums, DPWH will post them in the website.
- A department order will be issued to cover both the 2 new manuals and 2 addendums.

1-4 Achievement of the Project Purpose
- Ongoing

1-5 Changes of Risks and Actions for Mitigation
- None

1-6 Progress of Actions undertaken by JICA
- None

1-7 Progress of Actions undertaken by DPWH
- None

1-8 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)
- None

2 Delay of Work Schedule and/or Problems (if any)
- Some counterparts cannot participate in project activities by reason of business due to having ordinary tasks and/or unable to obtain consent from their boss
- ~~Budget for the Project has been cut~~
- TWG/CWG Engineers were not allowed to attend scheduled meetings (CAR)
  > RDs agreed to let CWG members attend/participate JICA activities
- Some of the bridge repair projects implemented by non-pilot region showed poor quality and workmanship because they are not following the approved

JICA-TCP manuals pursuant to Department Order No.94, series of 2014

- Shortage of Bridge Inspection Vehicle (BIV) for Luzon
  > DPWH agreed to purchase BIV. JICA team will support to purchase
- Delay of pilot projects on special bridge repair, road slope protection
- Its urgent pending matter for stable condition of bridge. Necessity of detailed survey of cable vibration of Diosdado Macapagal Bridge
- ~~Project News on DPWH web site had not been posted~~
- Restriction of travelling to Mindanao area for Japanese expert due to safety reason
- Damages occurs after completion of repair work caused by overloading vehicle
- Most of road slope protection pilot project cannot complemented on schedule. Because DPWH engineers are very busy.
- Most of regional office do not submit Special bridge Inspection report and Bridge engineering inspection report. Only one Region III submitted report.
- Equipment of routine maintenance are not purchased on time. Therefore field trial was postponed.
- Many Regional Offices do not submitting accomplishment/status reports
- Lack of NDT, necessary guidance from CWG members

3 Modification of the Project Implementation Plan

3-1 PDM

- Addition in activity 1.1:
  Recommended List of Equipment/Tools for road maintenance
- Addition in activity 2.1:
  Recommended List of Equipment/Tools for bridge maintenance.
- Addition in activity 2.2:
  Bridge Condition Data Review and Bridge Engineering Inspection.
- Addition in input by the Philippine side
  Counterpart personnel from Non-Pilot Regional Offices (I, IV-A, IV-B, V, VI, IX, X and XII)
- Addition in activity 1.2:
  Conduct condition inspection of road slope protection in CAR using drone technology
- Addition in activity 3.3:
  Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology

Conduct condition inspection of special bridges in RO-VIII using drone technology

* Updates in red color

- **Addition in input by the Japanese side**
  - **5. Video recording of Project activities**
  - **6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan**

3-2 PO

- **OJT on the pilot project on special bridge repair**
- **Activities for database system**
- **Training in Japan (1st, 2nd)**
- **Assignment schedule of JICA experts**
- **Add Video recording and Invitation to Observation Trip in Japan in Inputs**
- **Revise Sub- Activities in accordance to PDM**
- **Add assignment of expert of Special Bridge Maintenance Management (2)**

3-3 Other modifications on detailed implementation plan

- **Bridge/road slope inspection by drone**
  - **Special Bridge Inspection:Diosdado Makapagal Bridge(RO-XIII) on Nov22, 2016**
  - **Special Bridge Inspection: Magapit Bridge (RO-II) in 2017**
  - **Road Slope Inspection: Baguio (RO-CAR) in 2018**
  - **Special Bridge Inspection: San Juanico Bridge and Agas-agas Bridge (RO-VIII) In Nov 2018**
- **Field training on engineering inspection/special bridge inspection/load rating**
  - **Duration: 8-10 days**
  - **Schedule: RO-III (Luzon area) and RO-XIII (Mindanao area) in 2017**
    RO- VII (Visayas area) in 2018
- **Implementation field trial of routine maintenance using new equipment in 2019**

(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)

4 Preparation of DPWH toward after completion of the Project

II. Project Monitoring Sheet I & II *as Attached*

*** Updates in red color**

October 26, 2018
Confirmed by:

DPWH

Aristarco M. Doroy
Assistant Director, Bureau of Construction
Project Manager DPWH-JICA TCP

JICA Team

Hideo NAGAO
Team Leader / Bridge Expert
JICA Expert Team

*** Updates in red color**

Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Version 6
Dated 26 October, 2018

Counterpart Agencies: Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI and XIII) of DPWH

Target Groups: Engineers in all 16 Regional Offices and their District Engineering Offices of DPWH

Period of Project: Feb 2016 - Jan 2019 (3.0 years)

Project Site: All area under the jurisdiction of DPWH **Model Site: none**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Conditions of roads and bridges administered by DPWH are improved	1. Ratio of total length of roads with good/fair conditions to that of all roads administrated by DPWH becomes 82% within 3 years after Project completion	1. Records of DPWH			
	2. Ratio of total number bridges with good/fair conditions to that of all bridges administrated by DPWH becomes 95% within 3 years after Project completion	2. Records of DPWH			
	3. 450* construction projects on road slope stability are implemented within 3 years after Project completion. *This is same number to that of planned additional construction projects on road slope stability set as an indicator for Project Purpose	3. Records of DPWH, Interview with concerned staff of DPWH			
Project Purpose Road and bridge maintenance management works of DPWH are improved	1. Maintenance management works on roads and bridges (including special bridges) are continued by ROs/DEOs in all Regions with utilizing manuals developed and/or revised by the Project	1. Monitoring Sheets	1. Budgets for implementing maintenance management (including bridge repair and construction for road slope stability) of roads and bridges in all Regions are continued to be ensured. 2. Philippine government policy on road and bridge sector remains consistent.		
	2. 34 additional construction projects on road slope stability and/or bridge repair are planned by 17 ROs with utilizing the database system developed by the Project	2. Monitoring Sheets, Interview with concerned staff of target ROs			
Outputs 1. Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced	1-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on road maintenance management are enhanced (60% of those engineers agree that their knowledge and skills on road maintenance management have been enhanced)	1-1 Records of seminars and OJTs, Interview with some of participating engineers	1. Engineers participating in Project activities continue working in DPWH 2. Manuals and guidelines developed or revised by the Project are approved by DPWH Central Office		
	1-2. 17 planned pilot projects on road slope stability are implemented	1-2 Monitoring sheets			
2. Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced	2-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on bridge maintenance management and bridge inspections are enhanced (60% of those engineers agree that their knowledge and skills on bridge maintenance management and bridge inspections have been enhanced)	2-1 Records of seminars and OJTs, Interview with some of participating engineers			
	2-2. 17 planned pilot projects on bridge repair are implemented	2-2 Monitoring Sheets			
3. Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced	3-1. Knowledge (level of understanding on manuals) and skills of engineers who participated in seminars/OJTs on maintenance management and inspections of special bridges are enhanced (60% of those engineers agree that their knowledge and skills on maintenance management and inspections of special bridges have been enhanced)	3-1 Records of seminars and OJTs, Interview with some of participating engineers			
	3-2. 4 planned pilot projects on special bridge repair are implemented	3-2 Monitoring Sheets			
4. Database system to be utilized for road and bridge maintenance management is developed	4-1. Operation of database system on road slope stability works and bridge repairs (including periodic maintenance) is started	4-1 Monitoring Sheets, Database system, and Interview with concerned DPWH staff			

Activities	Inputs		Important Assumption
	The Japanese Side	The Philippine Side	1. Participation of C/Ps and other concerned engineers in Project activities is ensured.
1-1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	1. Experts - Team Leader/Bridge maintenance management - Road maintenance management - Road slope protection - Bridge repair - Special bridge maintenance management - Special bridge repair (1) - Special bridge repair (2) - Database system - Monitoring and evaluation/Coordinator - Other as necessary 2. C/P trainings in Japan and/or third country Japan Training 3times Third Country Training 1 time 3. Provision of equipment - Tools for OJT - Equipment for database system - Others 4. Local expenses necessary for Project activities 5. Video recording of Project activities 6. Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	1. C/P - Project Manager - Deputy Project Manager - Project Coordinator - Other Counterpart personnel from Central Office and Regional Offices (CAR, II, III, VII, NIR,VIII, XI, and XIII) for TWG and CWG - Supporting staff - Counterpart personnel from Non-Pilot Regional Offices (NCR, I, IV-A, IV-B, V, VI, IX, X and XII) 2. Suitable office spaces with necessary equipment for the Project implementation at Central Office and Regional Offices (CAR, II, III, VII, XI, and XIII) 3. Project expenses - Implementation of pilot projects - Seminars and workshops - Travel and allowance for participating in Project activities - Others	
1-2 Assist implementing pilot projects on road slope stability and relevant OJTs Conduct condition inspection of road slope protection in CAR using drone technology			
1-3 Monitor and evaluate situations of road maintenance management by ROs/DEOs			
1-4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
2-1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.			
2-2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Condition Data Review and Bridge Engineering Inspection.			
2-3 Assist implementing pilot projects on bridge repair and relevant OJTs			
2-4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs			
2-5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions			
3-1 Develop special bridge maintenance and management manual			Pre-condition 1. Philippine government allocates budget for the Project (implementing Sustainability Program) without any major delay
3-2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs			
3-3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII) Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology			
3-4 Assist implementing pilot projects on special bridge repair and relevant OJTs			
3-5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs			
3-6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions			
4-1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved			<Issues and countermesures>
4-2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system			
4-3 Develop the database system based on the basic plan			
4-4 Enter necessary data and make trial operations of the system at model RO			
4-5 Improve the system in consideration of the results of trial operations at model RO			
4-6 Prepare relevant manuals including operation manner			
4-7 Conduct seminars on the database system and its relevant manuals			

***Changes and updates in red color**

Project Monitoring Sheet II (Revision of Plan of Operation)+A1

Version 6

Dated 26 October, 2018

Project Title: The Project for Improvement of Quality Management for Highway and Bridge Construction and Maintenance, Phase III

Inputs	Plan/Actual	2016 I (Feb Mar)	2016 II (Apr May Jun)	2016 III (Jul Aug Sep)	2016 IV (Oct Nov Dec)	2017 I (Jan Feb Mar)	2017 II (Apr May Jun)	2017 III (Jul Aug Sep)	2017 IV (Oct Nov Dec)	2018 I (Jan Feb Mar)	2018 II (Apr May Jun)	2018 III (Jul Aug Sep)	2018 IV (Oct Nov Dec)	2019 I (Jan Feb)	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																	
Team Leader/Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Road Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Road Slope Protection	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Bridge Repair	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Special Bridge Maintenance Management	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Special Bridge Repair (1)	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Special Bridge Repair (2)	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Database System	Plan	■	■	■	■	■	■	■	■	■	■	■	■				
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Monitoring and Evaluation/Coordinator	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			
	Actual	■	■	■	■	■	■	■	■	■	■	■	■				
Special Bridge Maintenance Management (2)	Plan													■			
	Actual																
Equipment																	
Tools for OJT	Plan	■	■	■	■	■	■	■	■								
	Actual	■	■	■	■	■	■	■	■	■	■	■	■	■			
Equipment for database system	Plan			■	■	■	■	■	■								
	Actual			■	■	■	■	■	■	■	■	■	■	■			
Training in Japan																	
Training for Counterpart Personnel	Plan			■				■				■					
	Actual			■				■	■				■				
In-country/Third country Training																	
Third country training for Counterpart Personnel	Plan									■							
	Actual								■								
Video Recording																	
Video recording of Project activities	Plan			■	■	■	■	■				■					
	Actual			■	■	■		■		■		■		■			
Invitation to Observation Trip in Japan																	
Invitation to Observation Trip for the Road & Bridge Maintenance in Japan	Plan								■								
	Actual								■								

Activities / Sub-Activities	Plan/Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	Responsible Organization: Japan	Responsible Organization: DPWH	Achievements	Issue & Countermeasures
Output 1: Capability of concerned engineers of all ROs/DEOs on road maintenance management is enhanced.																		
1.1 Assist conducting seminars/OJTs on road maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for road maintenance.	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			Assisted seminar in RO-II, Assisted the selection of	
	Actual	■	■	■	■	■	■	■	■	■	■	■	■					
1.2 Assist implementing pilot projects on road slope stability and relevant OJTs. Conduct condition inspection of road slope protection in CAR using drone technology.	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			Assisted field training in RO-I, RO-II, RO-VIII, RO-V, RO-XIII	
	Actual	■	■	■	■	■	■	■	■	■	■	■	■					
1.3 Monitor and evaluate situations of road maintenance management by ROs/DEOs.	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			Conducted monitoring on NCR, CAR, RO IV-A, RO-VII, RO-XI, RO-V, RO-VI, RO-VIII	
	Actual	■	■	■	■	■	■	■	■	■	■	■	■					
1.4 Review manuals on road maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	Plan					■	■	■	■	■	■	■	■	■				
	Actual			■	■	■	■	■	■	■	■	■	■					
Output 2: Capability of concerned engineers of all ROs/DEOs on bridge maintenance management is enhanced.																		
2.1 Assist conducting seminars/OJTs on bridge maintenance management by Sustainability Program for concerned engineers of all ROs/DEOs. Recommended List of Equipment/Tools for bridge maintenance.	Plan	■	■	■	■	■	■	■	■	■	■	■	■	■			Assisted seminars in RO-V, RO-II	
	Actual	■	■	■	■	■	■	■	■	■	■	■	■					

Changes and updates in red color

Activity												Achievements	Remarks
2.2 Assist conducting seminars/OJTs on bridge engineering inspections by Sustainability Program for concerned engineers of all ROs/DEOs. Bridge Conditon Data Review and Bridge Engineering Inspection.	o										Plan	Conducted trainers training in RO-VII Checking of BMS Data in RO-VI, RO-VIII, RO IV-A, RO-X, RO-V, RO-II, RO-I Assisted the field training on Bridge Engineering Inspection and Load Rating in Luzon area, Visayas Area, **Mindanao area** Assisted Re-echo training in RO-CAR, **RO-VII, RO-VIII, RO-VI, RO-X, RO-XI**	[illegible] > DPWH agreed to purchase
											Actual		
2.3 Assist implementing pilot projects on bridge repair and relevant OJTs.				o							Plan	Assisted field training in CAR, RO-I, RO IV-A, RO IV-B, RO-VI, RO-VIII, RO-XIII, RO- III, RO-V. NCR	
											Actual		
2.4 Monitor and evaluate situations of bridge maintenance and engineering inspections by ROs/DEOs.	o										Plan	Conducted monitoring on RO-I, RO-X, RO IV-B, **RO-III, NCR, RO-II, RO-V, RO-VII**	
											Actual		
2.5 Review manuals on bridge maintenance management and construction supervision developed and/or revised by the Phase-II and make their necessary revisions.	o			o							Plan	**Finalized Addendum to Bridge Repair Manual**	
											Actual		

***Changes and updates in red color**

		PM Form3-3	Monitoring Sheet 11
Output 3: Capability of concerned engineers of ROs/DEOs in target Regions (II, III, VII, VIII, and XIII) on special bridge maintenance management is enhanced.			
3.1 Develop special bridge maintenance and management manual.			
3.2 Conduct seminars/OJTs on special bridge maintenance management for concerned engineers of target ROs/DEOs.		Conducted OJT in RO-III, RO-VII, RO-VIII	
3.3 Assist conducting seminars/OJTs on special bridge inspections by Sustainability Program for concerned engineers of target ROs/DEOs (conduct OJT for RO-VIII). Conduct condition inspection of special bridges in RO-II and RO-XIII using drone technology.		~~Assisted seminar in RO-II~~ Conducted OJT in RO-VIII Conducted beridge inspection using Drone on Diosado Macapagal Bridge (RO-XIII, RO-II) Assisted the field training on Special Bridge Inspection in Luzon area, Visayas area Assisted Re-echo training in RO-II, RO-III, **RO-VII, RO-VIII, RO-VI, RO-X, RO-XI**	
3.4 Assist implementing pilot projects on special bridge repair and relevant OJTs.		Conducted OJT in RO-XIII, RO-VII, **RO-III RO-II**	**Cracks occurs =>Conducted the inspection and submitted the report to DPWH for coountermeasure**
3.5 Monitor and evaluate situations of special bridge inspections by ROs/DEOs.			
3.6 Review special bridge inspection manuals developed by the Phase-II and make their necessary revisions.		**Finalized Addendum to Special Bridge Inspection Manuals**	
Output 4: Database system to be utilized for road and bridge maintenance management is developed.			
4.1 Review current filing situation of documents/data related to road and bridge maintenance management and identify issues to be improved.		Reviewed current filing	
4.2 Prepare the basic plan (framework, necessary entry data, operation manner, selection of model RO, etc.) for developing the database system.		Prepared the basic plan	
4.3 Develop the database system based on the basic plan.		Concluded a contract of procurement of equipment by bidding. Completed information input of Bridge Repair and Road slope protection	
4.4 Enter necessary data and make trial operations of the system at model RO.		Conducted Trial Input (Dec 4 -6, 2017) in RO-VII	
4.5 Improve the system in consideration of the results of trial operations at model RO.			
4.6 Prepare relevant manuals including operation manner.			
4.7 Conduct seminars on the database system and its relevant manuals.		**Conducted seminars for each area in CO. Conducted seminars to assist input in RO-CAR, RO-VII, RO-XI**	
Duration / Phasing			

Monitoring Plan	2016				2017				2018				2019	Remarks	Issue	Solution
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I			
Monitoring																
Joint Coordinating Committee																
Set-up the Detailed Plan of Operation																
Submission of Monitoring Sheet																
Reports/Documents																
Work Plan																
Project Final Report																
Public Relations																
JICA Web Site																
DPWH Web Site																

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