

Appendix-4

Minutes of Discussions

Appendix-4-1

Minutes of Discussions (1st Site Survey)

**MINUTES OF DISCUSSIONS ON
THE PREPARATORY SURVEY
OF THE PROJECT FOR AVALANCHE PROTECTION ON BISHKEK-OSH ROAD
IN THE KYRGYZ REPUBLIC**

In response to a request from the Government of the Kyrgyz Republic, Japan International Cooperation Agency (hereinafter referred to as "JICA") in consultation with the Government of Japan decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for Avalanche Protection on Bishkek-Osh Road (hereinafter referred to as "the Project").

JICA sent the Preparatory Survey Team (hereinafter referred to as "the Team") to the Kyrgyz Republic, headed by Mr. Nobuyuki Tsuneoka, Senior Advisor of JICA from March 20th to April 16th, 2014.

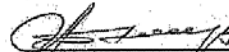
The Team held discussions with officials concerned of the Government of the Kyrgyz Republic and conducted a field survey in the Project area.

In the course of discussions and the field survey, both sides confirmed the main items described in the attached sheets.

Bishkek, April 1st, 2014



Nobuyuki Tsuneoka
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Murzabekov Abdimamat
Deputy Minister
Ministry of Transport and Communications,
Kyrgyz Republic



The Kyrgyz side will take the necessary measures, as described in Annex-5, to facilitate the smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented, according to the existing agreement between the Government of Japan and the Government of the Kyrgyz Republic.

8. Schedule of the Survey

Both sides confirmed the schedule of the Survey as follows:

- 8-1. The Team will continue the first field survey in the Kyrgyz Republic until April 16th, 2014.
- 8-2. JICA will prepare the interim report including the results of this survey and explain whether the survey will be continued or not in the end of June 2014.
- 8-3. If the Project is deemed feasible as the result of the Study, JICA will send a mission team to explain its contents to the Kyrgyz side in the end of June 2014 (2nd field survey). And the Team will continuously conduct the 2nd field survey for outline design and cost estimation until the end of July 2014.
- 8-4. If the Project is deemed feasible as the result of the Study, JICA will prepare the draft final report and send a mission team to explain its contents to the Kyrgyz Republic in December 2014. JICA will explain details of the Project including the final components and cost estimation to the Kyrgyz side.
- 8-5. JICA will finalize the final report and send it to the Kyrgyz side around April 2015.
- 8-6. The above schedule is tentative and subject to change.

9. Environmental and Social Considerations

- 9-1. The Team explained the Project is categorized as "Category B" according to the JICA Guideline, since the components in the Project may expect some impacts on the environment.
- 9-2. The Kyrgyz side understood the Project needs to follow the JICA guideline.
- 9-3. Regarding the Project Affected Persons (PAPs) within the Project sites, the Kyrgyz side agreed to ensure the appropriate budget to be allocated for resettlement and compensation and secure the land before the implementation of the Project. In this regard an Abbreviated Resettlement Action Plan (Abbreviated RAP) will be prepared and approved by the responsible authorities beforehand and the Kyrgyz side will take necessary measures to PAPs according to an Abbreviated RAP in close communication with JICA.

10. Proper Use

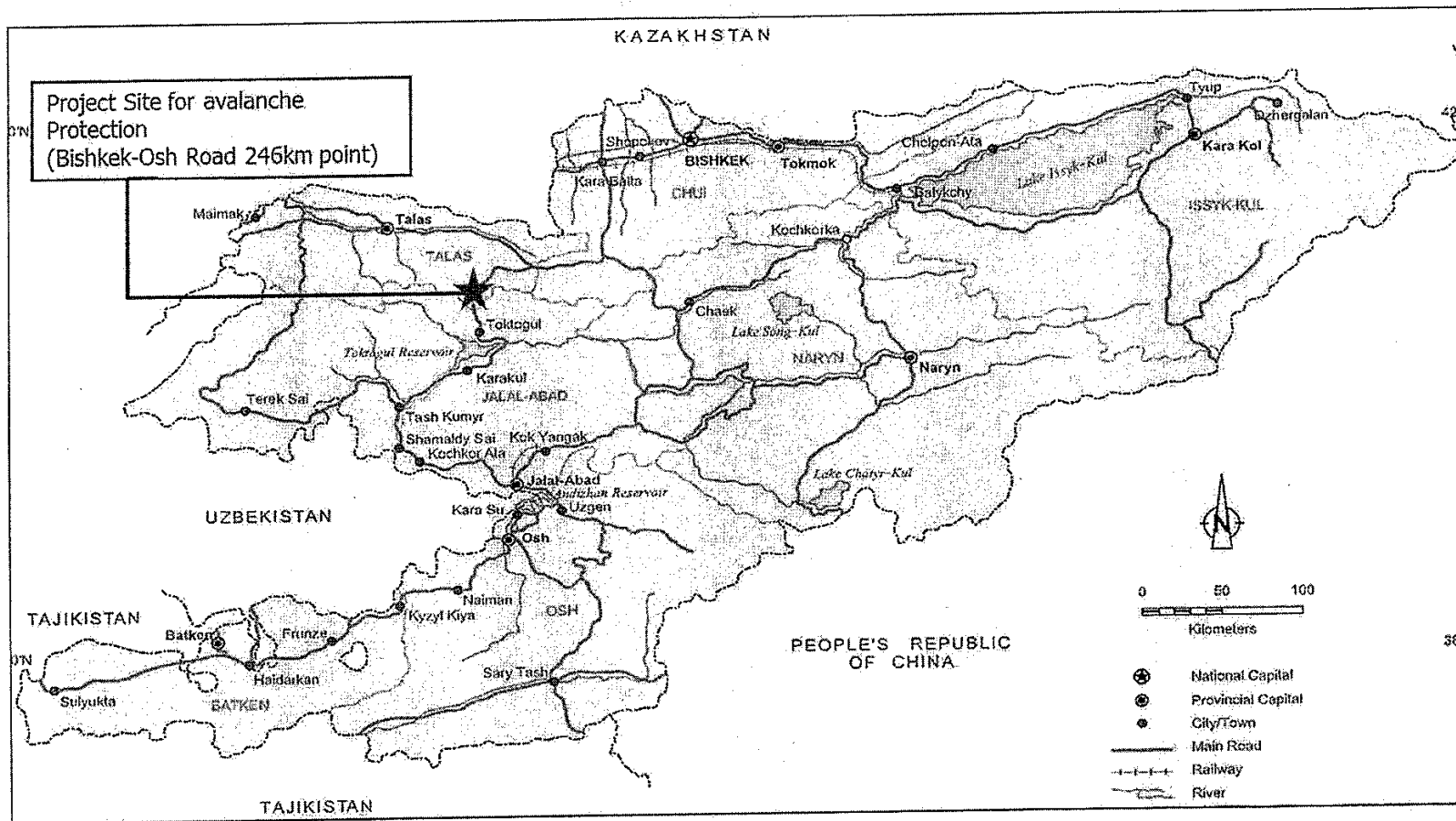
The Kyrgyz side shall secure enough budget and personnel necessary for the operation and maintenance of the facilities constructed by the Project, including the periodical maintenance work after the completion of the Project.

11. Other Relevant Issues

- 11-1. The Kyrgyz side shall, at its own expense, provide the Team with the following items in cooperation with other organizations concerned:



Annex-1: Project Site



Appendix4-1-3

Handwritten signature

Handwritten mark

JAPAN'S GRANT AID

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

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

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

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

2. Preparatory Survey

(1) Contents of the Survey

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

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.



(3) Eligible source country

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

(4) Necessity of "Verification"

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

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

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex-5.

(6) "Proper Use"

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

(7) "Export and Re-export"

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

(8) Banking Arrangements (B/A)

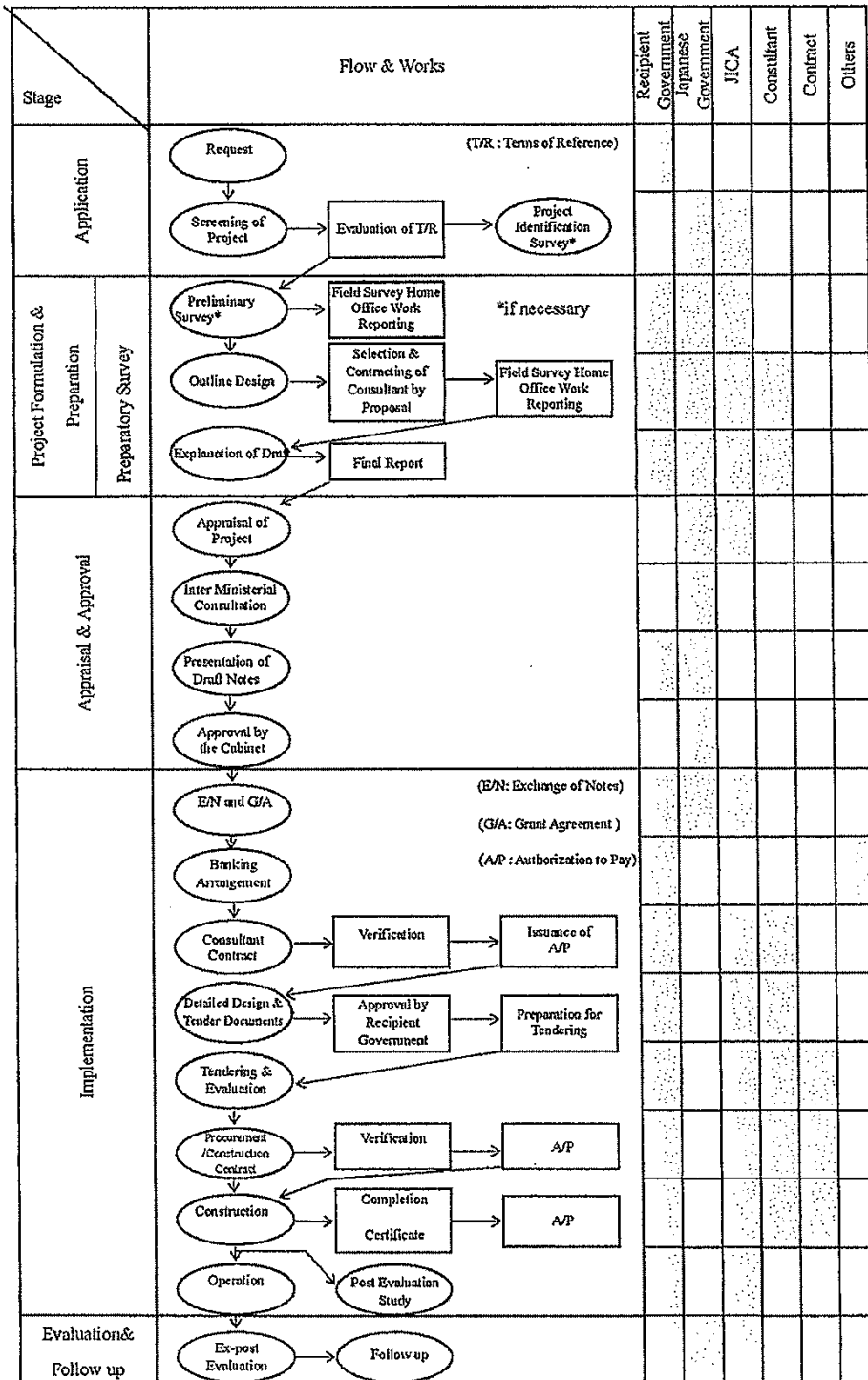
- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA will execute the Grant Aid by making payments in Japanese yen to cover the obligations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

(9) Authorization to Pay (A/P)



Annex-4: Flowchart of Japan's Grant Aid Procedure

Handwritten mark



Handwritten signature

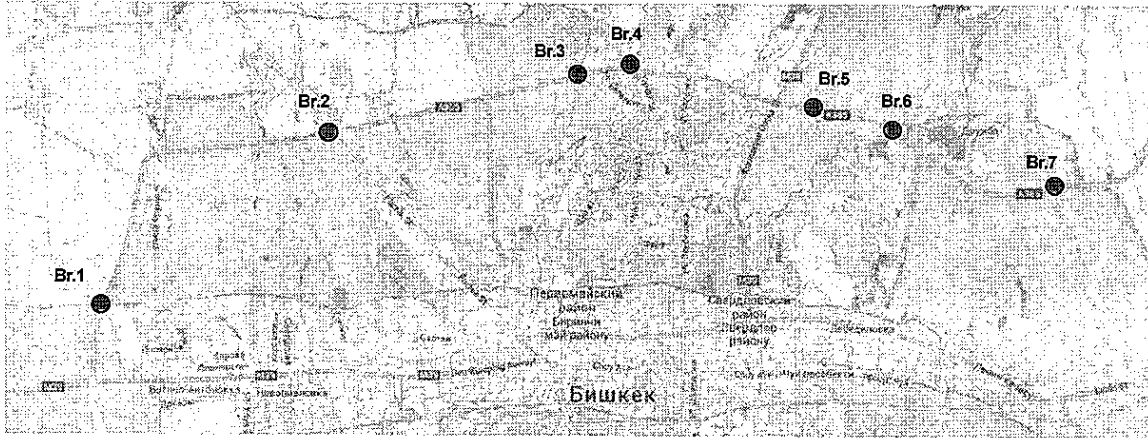
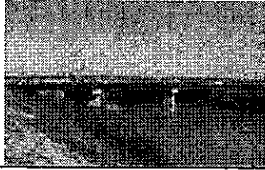




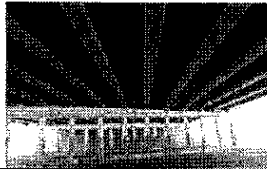


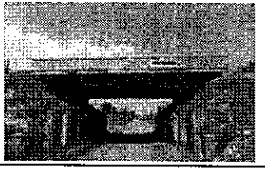
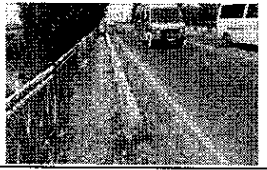
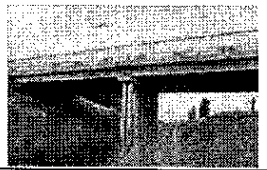
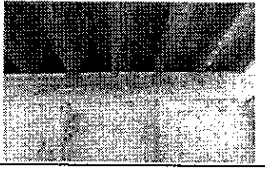
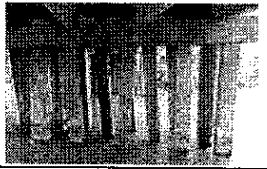
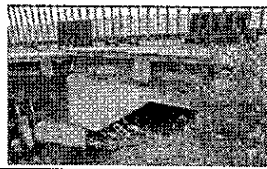


Figure 3.3.2 Location Map of Model Bridge to be used for the Training of Master Trainers

Table 3.3.3 Condition of Model Bridge

Br. 1	Br. 2 (No.235)	Br. 3 (No.237)	Br. 4 (2010)
Serious Damage in main girder	Problematic structure for Seismic Resistance	Exposed Re-bars	Ideal example (JICA Grant Project)
			
			
Br. 5 (1967) Repair Work has done by Kyrgyz	Br. 6 (1968) Defect in construction of substructure	Br. 7 (1967) Defect in design of abutment protection	
			
			

Appendix-4-2

Minutes of Discussions (2nd Site Survey)

**MINUTES OF DISCUSSIONS ON
THE PREPARATORY SURVEY
OF THE PROJECT FOR AVALANCHE PROTECTION ON BISHKEK-OSH ROAD
IN THE KYRGYZ REPUBLIC**

(Second Field Survey)

In response to a request from the Government of the Kyrgyz Republic, Japan International Cooperation Agency (hereinafter referred to as “JICA”) in consultation with the Government of Japan decided to conduct a Preparatory Survey (hereinafter referred to as “the Survey”) on the Project for Avalanche Protection on Bishkek-Osh Road (hereinafter referred to as “the Project”).

JICA sent the Preparatory Survey Team (hereinafter referred to as “the Team”) to the Kyrgyz Republic, headed by Mr. Nobuyuki Tsuneoka, Senior Advisor of JICA from May 17th to July 20th, 2014.

The Team explained and held discussions based on the Interim Report, which had been prepared by the Team, with officials concerned of the Government of Kyrgyz Republic and conducted a field survey in the Project area.

In the course of discussions and the field survey, both sides confirmed the main items described in the attached sheets.

Bishkek, June 5th, 2014



Nobuyuki Tsuneoka
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Murzabekov Abdimamat
Deputy Minister
Ministry of Transport and Communications,
Kyrgyz Republic



ATTACHMENT

1. First Field Survey

First Field Survey was conducted from March 20th to April 16th 2014 and Minutes of Discussions of First Field Survey (hereinafter referred to as “M/D-1”) was signed on April 1st 2014.

Both sides confirmed Minutes of Discussions of Second Field Survey (hereinafter referred to as “M/D-2”) is based on the M/D-1 attached as Annex-2, therefore descriptions in the M/D-2 focuses on necessary points to be added to and/or amended from the M/D-1.

2. Components of the Project

Both sides confirmed the components of the Project in the following table. However, the Kyrgyz side understood that final components of the Project could be changed due to the result of the study.

Component	Remark
1. Construction of the Snow Shed(Arch Culvert type) (for the avalanche protection at Bishkek-Osh road 246km point.)	About 450 m length
2. Construction of the approach road	

3. Schedule of the Survey

Both sides confirmed the schedule of the Survey as follows:

- 3-1. The Team will continue the second field survey in the Kyrgyz Republic until July 20th, 2014.
- 3-2. If the Project is deemed feasible as the result of the Survey, JICA will prepare the draft final report and send a mission team to explain its contents to the Kyrgyz Republic around December, 2014. JICA will explain the details of the Project including the final components and cost estimation to the Kyrgyz side.
- 3-3. JICA will finalize the final report and send it to the Kyrgyz side around April, 2015.
- 3-4. The above schedule is tentative and subject to change.

4. Environmental and Social Considerations

- 4-1. Regarding Environmental Impact Assessment (EIA), the Kyrgyz side will prepare and make it approved by the responsible authorities in accordance with the JICA guideline by the end of November, 2014.
- 4-2. Regarding the Project Affected Persons (PAPs) within the Project sites, the Kyrgyz side agreed to ensure the appropriate budget to be allocated for resettlement and compensation and ensure the land before the implementation of the Project in accordance with the JICA guideline.



5. Other Relevant Issues

Both sides reconfirmed the following issues mentioned in M/D-1 as those of which are important to proceed with the surveys.

5-1. The Kyrgyz side agreed that the following undertakings should be taken by the Kyrgyz side at the Kyrgyz expenses under the Project if implementation of the Project is approved by the Government of Japan;

(1) to provide tax exemption for construction materials and equipment for the Project.

1) The Kyrgyz side agreed that customs duties, internal taxes and other fiscal levies which may be imposed in Kyrgyz Republic are exempted under mutual agreement of Exchange of Note (E/N).

2) If any expenses stated above are caused by some reasons such as the delay of execution of tax exemption, the Kyrgyz side shall pay for it.

(2) to ensure the lands necessary for the implementation of the Project including land for site office, plant yards, material storing yard, motor pool, temporary construction yard, waste disposal site and quarry;

(3) to relocate existing utilities within the Project site if necessary;

(4) to relocate existing buildings and facilities if necessary;

(5) to arrange issuance of license, permission and other necessary procedures for the Project; and

(6) to provide security measures for all concerned working for the Project.

5-2. The Kyrgyz side shall provide proper measures of traffic safety for surveyors conducting geological and topographical survey on the road during Second Field Survey.

Annex-1: Project Site

Annex-2: M/D-1



**MINUTES OF DISCUSSIONS ON
THE PREPARATORY SURVEY
OF THE PROJECT FOR AVALANCHE PROTECTION ON BISHKEK-OSH ROAD
IN THE KYRGYZ REPUBLIC**

In response to a request from the Government of the Kyrgyz Republic, Japan International Cooperation Agency (hereinafter referred to as "JICA") in consultation with the Government of Japan decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for Avalanche Protection on Bishkek-Osh Road (hereinafter referred to as "the Project").

JICA sent the Preparatory Survey Team (hereinafter referred to as "the Team") to the Kyrgyz Republic, headed by Mr. Nobuyuki Tsuneoka, Senior Advisor of JICA from March 20th to April 16th, 2014.

The Team held discussions with officials concerned of the Government of the Kyrgyz Republic and conducted a field survey in the Project area.

In the course of discussions and the field survey, both sides confirmed the main items described in the attached sheets.

Bishkek, April 1st, 2014



Nobuyuki Tsuneoka
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Murzabekov Abdimamat
Deputy Minister
Ministry of Transport and Communications,
Kyrgyz Republic



ATTACHMENT

1. Title of the Project

Both the Japanese and Kyrgyz sides confirmed that the title of the Project shall be "the Project for Avalanche Protection on Bishkek-Osh Road".

2. Objective of the Project

Both sides confirmed that the objective of the Project is to take measures for avalanche protection at 246km of Bishkek-Osh Road to ensure traffic during snow season at the project site.

3. Project Site

Both sides confirmed that the site of the Project is as shown in Annex-1.

4. Objective of the Survey

Both sides confirmed the objective of the Survey as follows:

- 4-1. To understand the background and objective of the Project and examine its impacts and appropriateness.
- 4-2. To identify the components of the Project based on the data and information collected from and the results of meetings with the Kyrgyz side.
- 4-3. To study the issues of environmental and social considerations through the Survey.

5. Responsible and Implementing Agency

Both sides confirmed the implementing organizations as follows:

- 5-1. The responsible and implementing organization is Ministry of Transport and Communications (MOTC).
- 5-2. The organization chart of MOTC is as shown in Annex-2.

6. Items Requested by the Government of the Kyrgyz Republic

As a result of discussions between both sides, the construction of the snow shed as an avalanche protection facility was requested by the Kyrgyz side. Both sides confirmed that the components of the Project will be decided by the Japanese side in consideration of necessity, technical feasibility, sustainability, cost-effectiveness and available budget. Therefore, the Kyrgyz side understood that depending on the results of this first field survey, there is a possibility that the survey for the project will not be continued and the project will not be implemented.

7. Japan's Grant Aid Scheme

The Kyrgyz side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex-3 and Annex-4.



- 2 -



- 6 -



The Kyrgyz side will take the necessary measures, as described in Annex-5, to facilitate the smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented, according to the existing agreement between the Government of Japan and the Government of the Kyrgyz Republic.

8. Schedule of the Survey

Both sides confirmed the schedule of the Survey as follows:

- 8-1. The Team will continue the first field survey in the Kyrgyz Republic until April 16th, 2014.
- 8-2. JICA will prepare the interim report including the results of this survey and explain whether the survey will be continued or not in the end of June 2014.
- 8-3. If the Project is deemed feasible as the result of the Study, JICA will send a mission team to explain its contents to the Kyrgyz side in the end of June 2014 (2nd field survey). And the Team will continuously conduct the 2nd field survey for outline design and cost estimation until the end of July 2014.
- 8-4. If the Project is deemed feasible as the result of the Study, JICA will prepare the draft final report and send a mission team to explain its contents to the Kyrgyz Republic in December 2014. JICA will explain details of the Project including the final components and cost estimation to the Kyrgyz side.
- 8-5. JICA will finalize the final report and send it to the Kyrgyz side around April 2015.
- 8-6. The above schedule is tentative and subject to change.

9. Environmental and Social Considerations

- 9-1. The Team explained the Project is categorized as "Category B" according to the JICA Guideline, since the components in the Project may expect some impacts on the environment.
- 9-2. The Kyrgyz side understood the Project needs to follow the JICA guideline.
- 9-3. Regarding the Project Affected Persons (PAPs) within the Project sites, the Kyrgyz side agreed to ensure the appropriate budget to be allocated for resettlement and compensation and secure the land before the implementation of the Project. In this regard an Abbreviated Resettlement Action Plan (Abbreviated RAP) will be prepared and approved by the responsible authorities beforehand and the Kyrgyz side will take necessary measures to PAPs according to an Abbreviated RAP in close communication with JICA.

10. Proper Use

The Kyrgyz side shall secure enough budget and personnel necessary for the operation and maintenance of the facilities constructed by the Project, including the periodical maintenance work after the completion of the Project.

11. Other Relevant Issues

- 11-1. The Kyrgyz side shall, at its own expense, provide the Team with the following items in cooperation with other organizations concerned:



- 3 -



- 7 -



- (1) security-related information as well as measures to ensure the safety of the survey team;
- (2) information as well as support in obtaining medical service;
- (3) data and information necessary for the Survey;
- (4) counterpart personnel;
- (5) credentials or identification cards if necessary;
- (6) entry permits necessary for the survey team members to conduct field surveys;
- (7) permission for the implementation of the traffic survey;
- (8) necessary arrangement for exemption of the taxes, duties, and any charges on equipment, machinery and other materials brought into the Kyrgyz Republic for the implementation of the Survey; and
- (9) support in obtaining other privileges and benefits if necessary.

11-2. The Kyrgyz side agreed that the following undertakings should be taken by the Kyrgyz side at the Kyrgyz expenses under the Project if implementation of the Project is approved by the Government of Japan;

- (1) to ensure the lots of land necessary for the implementation of the Project including land for site office, plant yards, material storing yard, motor pool, temporary construction yard and waste disposal site;
- (2) to relocate existing utilities within the Project site;
- (3) to relocate existing buildings and facilities if necessary;
- (4) to arrange issuance of license, permission and other necessary procedures for the Project; and
- (5) to provide security measures for all concerned working for the Project.

12. Disclosure of Information

Both sides confirmed that the study results excluding the Project cost will be disclosed to the public after the completion of the Survey. All the study result including the Project cost will be disclosed to the public after all the verification of contracts for the Project by JICA are concluded.

Annex-1: Project Site

Annex-2: Organization Chart of MOTC

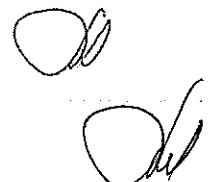
Annex-3: Japan's Grant Aid Scheme

Annex-4: Flowchart of Japan's Grant Aid Procedure

Annex-5: Major Undertakings to be taken by Each Government



- 4 -



- 8 -

Annex-1: Project Site



Appendix 4-2-9

-9-

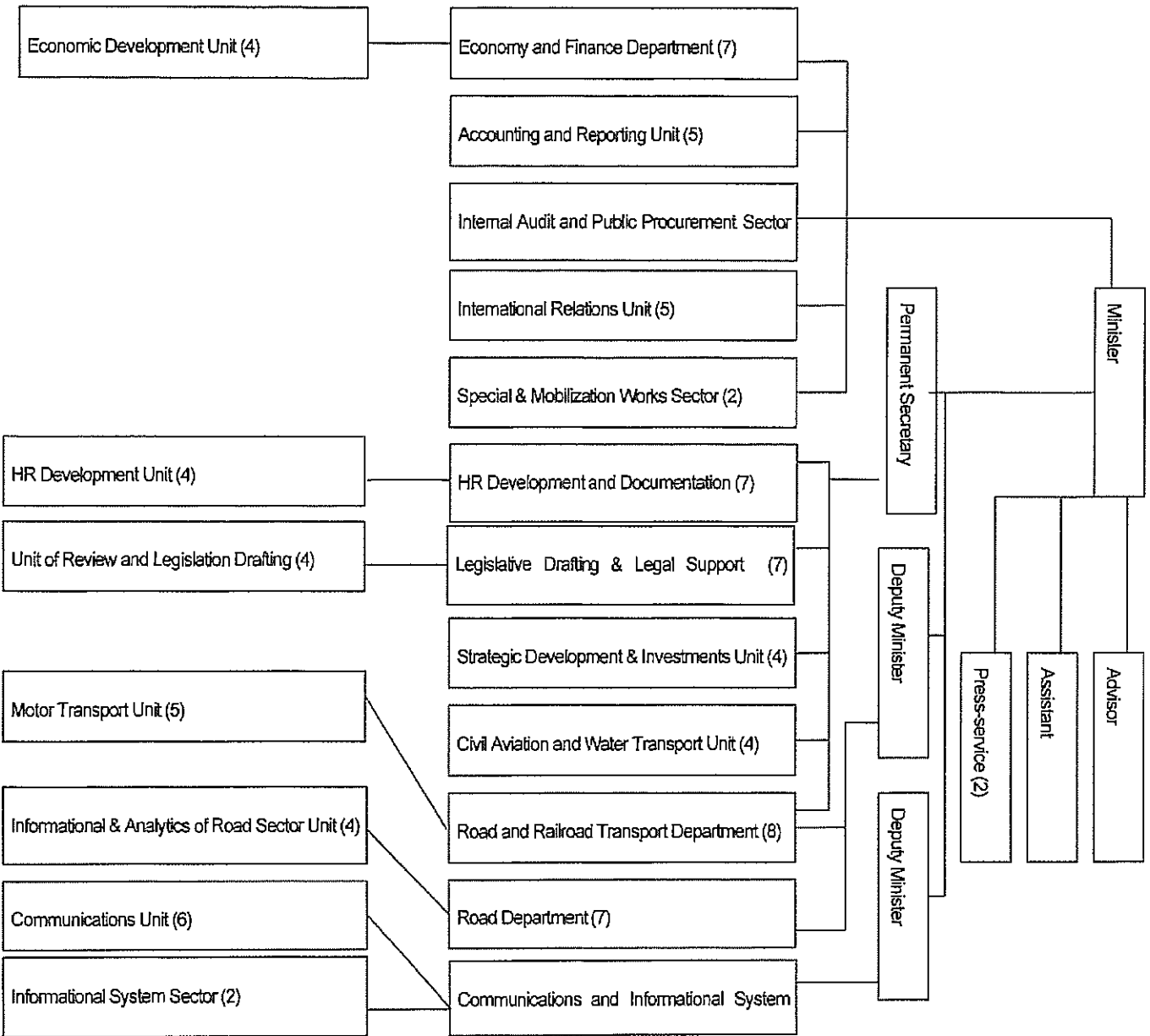
Handwritten signature

Handwritten signature

Handwritten mark

Handwritten signature

Annex-2: Organization Chart of MOTC



Handwritten signatures

Handwritten signatures

JAPAN'S GRANT AID

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

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

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

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

2. Preparatory Survey

(1) Contents of the Survey

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

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.



- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a outline design of the Project.
- Estimation of costs of the Project.

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

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

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

(3) Result of the Survey

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

3. Japan's Grant Aid Scheme

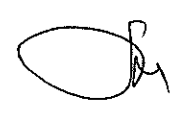
(1) The E/N and the G/A

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

(2) Selection of Consultants

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



(3) Eligible source country

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

(4) Necessity of "Verification"

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

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

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex-5.

(6) "Proper Use"

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

(7) "Export and Re-export"

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

(8) Banking Arrangements (B/A)

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

(9) Authorization to Pay (A/P)

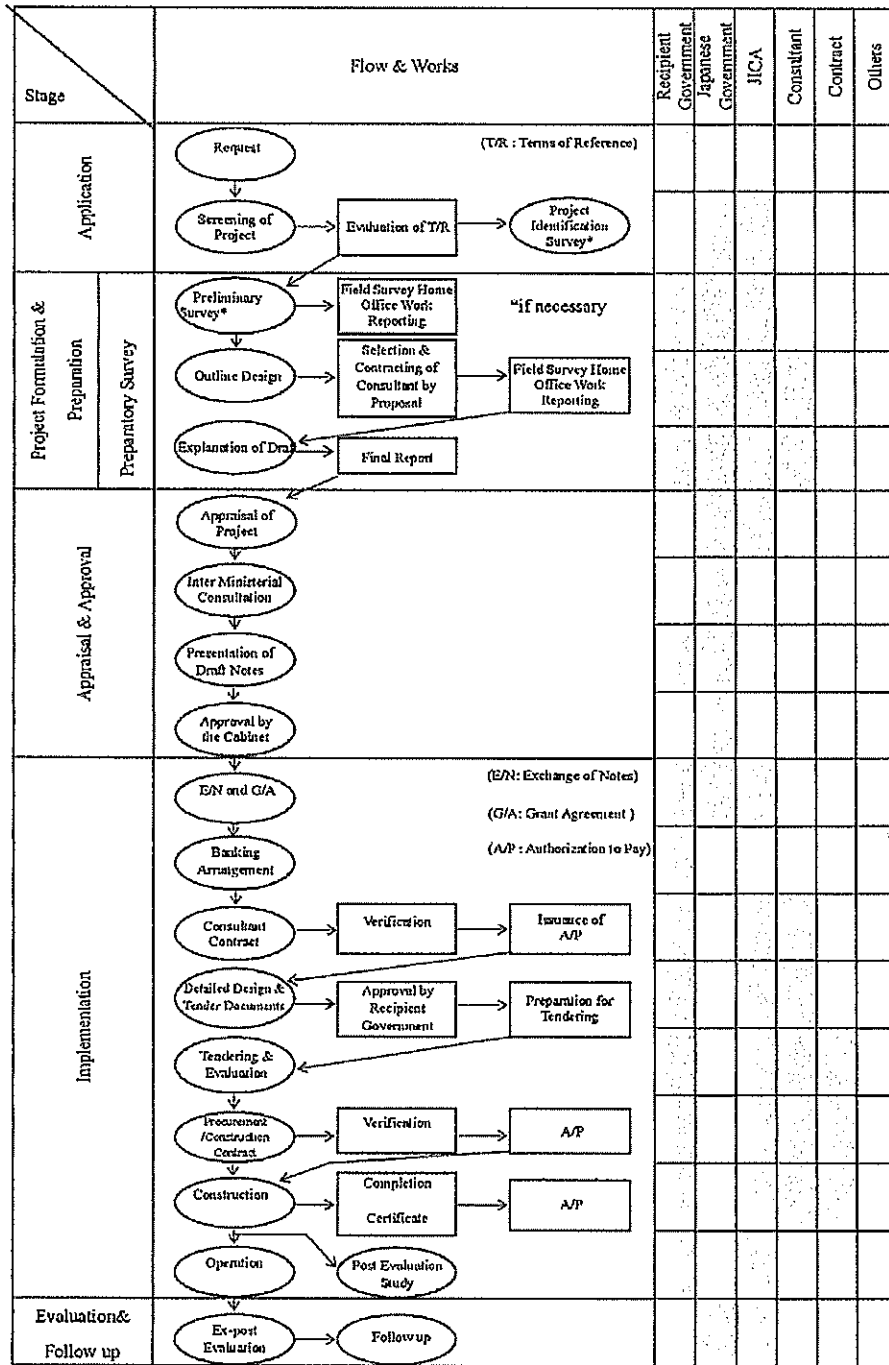
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

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



Annex-4: Flowchart of Japan's Grant Aid Procedure



Annex-5: Major Undertakings to be taken by Each Government

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

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

Appendix-4-3

Minutes of Discussions (Explanation of Draft Final Report)

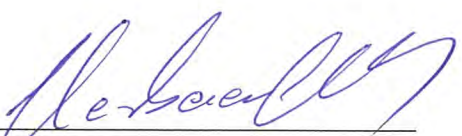
**MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY
OF THE PROJECT FOR AVALANCHE PROTECTION
ON BISHKEK-OSH ROAD
IN THE KYRGYZ REPUBLIC
(Explanation of Draft Final Report)**

On the basis of the discussions and field survey in the Kyrgyz Republic from March to July 2014, and the subsequent technical examination of the results in Japan, Japan International Cooperation Agency (hereinafter referred to as "JICA") prepared a draft Preparatory Survey Report on the Project for Avalanche Protection on Bishkek-Osh Road (hereinafter referred to as "the Project").


JICA sent a Preparatory Survey Team (hereinafter referred to as "the Team") to the Kyrgyz Republic, headed by Mr. Nobuyuki Tsuneoka, Senior Advisor of JICA, to explain to and consult with officials concerned of the Government of the Kyrgyz Republic (hereinafter referred to as "GOKR") on the contents of the draft Preparatory Survey Report from November 28th to December 13th, 2014.

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

Bishkek, December 10th, 2014



Ulan Uezbaev
Deputy Minister
Ministry of Transport and Communications
The Kyrgyz Republic



Nobuyuki Tsuneoka
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

ATTACHMENT

1. Components of the Draft Preparatory Survey Report

The Kyrgyz side, represented by MOTC, agreed and accepted the contents of the Draft Preparatory Survey Report explained by the Team. In particular, the components of the Project described below as a) and b), which were presented by the Team during its stay in this time, as a result of succeeding surveys and thorough technical examination, were discussed and agreed by the both sides. The Team also explained that this Project is expected to contribute to adaptation to climate change.

- a) Construction of the snow shed (Arch Culvert Type) at 246km point of Bishkek-Osh Road
- b) Construction of the access roads on the both sides of the snow shed

2. Cost Estimation for the Project

2-1. The Japanese side explained to the Kyrgyz side the rough estimate of the Project Cost including contingency fund described in Annex-1; however, the final Project Cost described in the Exchange of Note (hereinafter referred to as “E/N”) would be appraised by the Government of Japan (hereinafter referred to as “GOJ”). The aforementioned contingency might be allocated, if necessary, to the additional cost in the following cases;

- i. Disturbance of Public Peace and Order
 - a. Securing of safety (security guards, equipment, etc.)
 - b. Suspension of construction (downsizing, maintenance of construction site, resumption of construction work, standby during suspension, etc.)
 - c. Evacuation (travel expense, theft during evacuation, etc.)
 - d. Material loss (limited to losses caused by disturbed public peace and order)
 - e. Other conditions attributable to disturbed public peace and order.
- ii. Natural Disaster
 - a. Restoration
 - b. Suspension of construction (downsizing, maintenance of construction site, resumption of construction work, standby during suspension, etc.)
 - c. Material loss (limited to losses caused by natural disaster)
 - d. Other conditions attributable to natural disaster.
- iii. Unexpected Environmental Conditions, etc.

Increase in cost due to environmental and other conditions that are beyond the assumption made during the design phase.
- iv. Changes in Economic/Market Conditions

Changes in the conditions of the economy and the market that affect the entire

construction work.

v. Losses Caused by Delinquency/Default on Obligation by the Recipient Country

Expenses to cover the loss caused by the delinquency or default on the obligations of the recipient country, which the government of Japan deems and approves to be truly unavoidable.

2-2. The both sides further confirmed that the Project Cost in Annex-1, and details of the construction works in the Draft Preparatory Survey Report should be confidential and should never be duplicated and/or disclosed to any third parties until all the contracts for the Project are concluded.

3. Validity of the Previous Minutes of Discussions

The both sides confirmed that all the agreements in the Minutes of Discussions of the preceding Preparatory Survey signed on April 1st, 2014 and June 5th, 2014 should continue to be valid unless information is updated by the Draft Preparatory Survey Report.

4. Japan's Grant Aid Scheme

The Kyrgyz side fully understood the scheme of the Japan's Grant Aid and the necessary measures to be undertaken by the Kyrgyz side as explained by the Team in the Minutes of Discussions signed on April 1st, 2014.

5. Undertakings of the Kyrgyz Side

5-1 . The Kyrgyz side promised to undertake the Major Undertakings to be taken by the Kyrgyz side for the Project listed in Annex-2 at full responsibility and its own expenses based on the contents of the Report.

5-2. The Team explained that the customs duties, internal taxes and other fiscal levies, imposed in the Kyrgyz Republic with respect to the purchase of the products and the services should be exempted in accordance with the regulations of E/N and G/A to be signed between the two governments. The Kyrgyz side confirmed that the customs duties, internal taxes and other fiscal levies, imposed in the Kyrgyz Republic with respect to the purchase of the products and the services should be exempted after G/A is concluded. In case the exemption procedure is not processed in a timely manner, the both sides agreed all payments under the Project would be temporarily owed by the Kyrgyz side.

5-3 . MOTC will ensure the allocation of budget in accordance with the existing budget on the corresponding years. The MOTC promised to report to the JICA Kyrgyz office after approval of the budget. If the budget is not approved in time and/or appropriately, there will be a possibility that the Project might be suspended / terminated.

- 5-4 . MOTC agreed to report to the JICA Kyrgyz office on the progress of their undertakings by the Kyrgyz side until all the works are implemented. After E/N is concluded, reports to the JICA Kyrgyz office shall be submitted monthly with actual progress bar chart in [Annex-2](#). Other than the monthly report, MOTC shall reply if requested by JICA.
- 5-5 . MOTC confirmed that maintenance works of the existing road during the Project would be implemented by MOTC.

6. Environmental and Social Considerations

- 6-1. The Team explained that ‘JICA Guidelines for Environmental and Social Considerations (April 2010)’ (hereinafter referred to as ‘the JICA Guidelines’) is applicable for the Project. The Project is categorized as B because the Project is not considered to be a large-scale road project, is not located in a sensitive area, has none of the sensitive characteristics under the JICA Guidelines, and is not likely to have a significant adverse impact on the environment.
- 6-2. The both sides confirmed that information on environmental and social considerations including major impacts and relevant mitigation measures are summarized in the Environmental Checklist attached as [Annex-3](#). The Kyrgyz side will inform JICA of any major changes which may affect environmental and social considerations made for the Project, by revising the Checklist in a timely manner.
- 6-3. The both sides confirmed the EIA report had been approved by the State Agency of Environment Protection and Forestry in November 2014.
- 6-4. The both sides confirmed Environmental Management Plan (EMP) of the Project is as [Annex-4](#). The both sides agreed that environmental considerations shall be conducted based on the EMP, which may be updated during the detailed design stage.
- 6-5. The both sides confirmed monitoring for environmental and social considerations should be conducted by MOTC in accordance with the Environmental Monitoring Plan and Monitoring Form attached as [Annex-4](#) and [Annex-5](#).
- 6-6. MOTC confirmed that the results of environmental and social monitoring will be provided to the JICA Kyrgyz Office by filling in Environmental Monitoring Form attached as [Annex-5](#) as described in EIA report until the completion of the Project. In case JICA finds that there is necessity for improvement in a situation with respect to environmental and social considerations after the agreed monitoring period, JICA can request to extend the period of monitoring and reporting until JICA confirms the issues have been properly addressed.

6-7. The both sides confirmed the resettlement impacts of the Project as follows:

Summary of resettlement impacts

No.	Item	Total
1	Affected Households	1
2	Households to be resettled	1
3	Persons to be resettled	6

Such resettlement shall be implemented with the assistance of MOTC, and also it should be done on the appropriate schedule shown in Annex-2 in accordance with the JICA Guidelines .

- 6-8. The both sides confirmed internal monitoring for the resettlement of project affected persons (PAPs) proposed in the EIA will be conducted by MOTC during the construction phase and for two (2) years after the the completion of the Project in case restoration of livelihood is not confirmed during the construction phase. In case there is a remaining issue that needs to be addressed (e.g. insufficient restoration of livelihood of displaced PAPs), JICA may request to extend the period of monitoring and reporting until JICA confirms the issues have been properly addressed and solved in accordance with the agreement between MOTC and JICA.
- 6-9. The Kyrgyz side confirmed it will take stipulated procedures for information disclosure in accordance with the related Laws and Regulations in the Kyrgyz Republic. In addition, the Team requested the Kyrgyz side to disclose the monitoring results to local project stakeholders, and the Kyrgyz side agreed to disclose monitoring results on their website.
- 6-10. The Kyrgyz side agreed JICA's disclosure of provided monitoring results in the monitoring form (Annex-5) on its website to the extent that they are made public in the Kyrgyz Republic.

7. Operation and Maintenance of the facilities

7-1 . The team explained about the importance of operation and maintenance of the facilities considering the fact that proper asset management impacts greatly on maintenance cost and lifespan of the facilities. The Kyrgyz side shall secure enough staff and budgets necessary for appropriate operation and maintenance of the facilities constructed by the Project. The annual operation and maintenance costs are estimated and shown in the table below.

Items	Work Contents	Frequency	Calculation formula	Cost
Daily Inspection	Patrol, weeding, removal of obstacles and sediment	Twice / Week	2 Persons × 1,000KGS × 100 Days	200,000KGS / Year
Periodical Inspection	Confirmation of earth covering, Visual inspection of the deformation and damage of the structure	Once / Year	2 Persons × 1,000KGS × 5 Days	10,000KGS / Year
	Crack investigation for concrete structure	Once / 5 Years	5 Persons × 1,000KGS × 3 Days Vehicles: 25,000KGS×3 Days Tools: 50,000KGS	140,000KGS / 5 Years (28,000KGS / Year)
	Inspection for lighting	Once / Year	2 Persons × 1,000KGS × 2 Days Vehicles: 25,000KGS × 2 Days	54,000KGS / Year
Electric fee	Lighting in Snowshed	-	15kW×24h×365 Days×1.4KGS	183,960KGS / Year
Repair work	Shaping of road shoulder and slope	Once / 2 Years	5 Persons × 1,000KGS × 3 Days Vehicles: 35,000KGS × 3 Days	120,000KGS / 2 Year (60,000KGS / Year)
	Crack injection, Patching of potholes	Once / Year	7 Persons × 1,000KGS × 5 Days Equipment: 25,000KGS × 5 Days Materials: 50,000KGS	210,000KGS / Year
			Annual maintenance costs	745,960KGS / Year
			0.05% of Road Maintenance budget of MOTC in 2014	

7-2 . Additionally the Kyrgyz side agreed to take necessary measures in order to let road users respect traffic regulations considering the following facts:

- 1) Although the project includes some facilities to ensure traffic safety such as sign posts and cat's eye, increasing traffic will inevitably raise the number of accidents.
- 2) Overloading trucks would exceed designed live load which would cause earlier rehabilitation and shorter life of the facilities.




8. Schedule of the Study

- 8-1. JICA will complete the Final Report of the Preparatory Survey in English, in accordance with the confirmed items and send it to the Kyrgyz side around April 2015.
- 8-2. The above schedule is tentative and subject to change.

9. Disclosure

The both sides confirmed that the study results excluding the Project cost estimation and details of the construction works will be disclosed to the public after completion of the Preparatory Survey. All the study results including the Project cost and details of the construction works will be disclosed to the public after all the contracts for the Project are concluded.

10. Misconduct

If JICA receives information concerning suspected corrupt or fraudulent practices, the GOKR shall take necessary measures in accordance with the Procurement Guidelines in the competition for, or in execution of the contract funded by the Grant :

- (1) to provide JICA with such information as JICA may reasonably request, including information related to any concerned officials of the government and/or public organizations of the Kyrgyz Republic ; and
- (2) not to treat unfairly or unfavorably the physical persons and juridical persons, that provide the information.

Annex-1: Project Cost Estimation

Annex-2: Major undertakings to be taken by GOKR

Annex-3: Environmental Checklist

Annex-4: Environmental Management Plan (EMP) / Monitoring Plan

Annex-5: Monitoring Form



Annex-1: Project Cost Estimation

CONFIDENTIAL

(1) Cost Borne by the Government of Japan

This item is closed due to the confidentiality.

(2) Cost Borne by the Government of the Kyrgyz Republic

Cost Items	Cost Estimation	
	Thousand Som	Thousand Yen
Banking Commission for B/A and A/P	4,400	8,536
Relocation of existing communication facility	780	1,513
Compensation of Alcha	35	68
Electric Power Supply & Emergency Generator	21,040	40,818
Maintenance of Temporary Diversion Asphalt Pavement Road	1,512 (504 / year)	2,933
Total	27,767	53,868

(3) Conditions of Cost Estimation

This item is closed due to the confidentiality.



Required Budget for the Government of Kyrgyz Republic

Items	Required Budget (Thousand Som)
Relocation of Communication Cable	780
Compensation of Alcha	35
Electric Power Supply & Emergency Generator	21,040
Maintenance of Temporary Diversion Asphalt Pavement Road	1,512
Advising Commission for the Opening of Bank Account	1,600
Commission for Each Year Payment	2,800
Total	27,767

1 som = 1.94 yen

(2) Other Undertakings necessary for smooth implementation of the Project

Items
To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products.
To accord Japanese physical persons and / or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the implementation of the Project.
To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project.
To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project even other than the cost shown in Annex-1 if necessary.
To support ensuring security for the personnel assigned to the Project and ensuring security at the Project sites, e.g. security information sharing, coordination with police, etc.
To cooperate in solving potential troubles with the local people or any third party in connection with the execution of the Project with close consultation with JICA.

Annex-3: Environmental Checklist

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) Y (b) N (c) N (d) N	(a) The EIA Survey was carried out and the report of the survey was prepared with the instruction of the contents of EIA from SAEPF based on the law of the Kyrgyz Republic No.54 "Environmental Review", 1999 and Instructions establishing modalities for assessment of proposed activities on the environment (EIA) in the Kyrgyz Republic, 1997 № 386. (b) The EIA report was submitted to SAEPF in October 2014 and it was officially approved in November 2014. (c) The EIA report is unconditionally approved. (d) The permits of cutting of vulnerably plants, archa trees will be applied after the approval of the EIA report, in January 2014 and will be approved until March of 2015.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) Y	(a) The consultations with the city and stakeholders were held and understanding was obtained from the Local stakeholders. (b) The comments from stakeholders were recorded as the minutes and have been reflected to the project design.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Alternative plans has been examined including 'zero option'; Option 1 was selected from Zero Option, Option 1: arch culvert type snow shed, and Option 2: tunnel type snow shed in consideration to the traveling performance
2 Pollution Control	(1) Air Quality	(a) Is there a possibility that air pollutants emitted from the project related sources, such as vehicles traffic will affect ambient air quality? Does ambient air quality comply with the country's air quality standards? Are any mitigating measures taken? (b) Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse?	(a) Y (b) Y	(a) Some types of vehicles emit many air pollutants and may impact on air, but monitoring will be implemented to mitigate the impacts. (b) Current air quality is falling below the reference values now. Increasing of the traffic is expected, however decreasing of air pollution is expected because of reduction in the use of snow blowers and improvement of traffic ability.
	(2) Water Quality	(a) Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? (b) Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater? (c) Do effluents from various facilities, such as parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas not to comply with the country's ambient water quality standards?	(a) N (b) N (c) N/A	(a) Cut slope will be protected with slope protection work therefore soil runoff is controlled and impacts on water quality will be little. (b) Measures will be taken to prevent contaminated water running into water sources by equipping drainage. (c) There are no parking areas and service areas around the project site.
	(3) Wastes	(a) Are wastes generated from the project facilities, such as parking areas/service areas, properly treated and disposed of in accordance with the country's	(a) N/A	(a) There are no parking areas and service areas around the project site.

Appendix 4-3-1

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		regulations?		
	(4) Noise and Vibration	(a) Do noise and vibrations from the vehicle and train traffic comply with the country's standards?	(a) Y	(a) Noise and vibration from passing vehicles are not expected so as to impact on local people.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) The project site is not located in protected areas.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock? (e) Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered? (f) In cases the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments? (g) Is there a possibility that changes in localized micro-meteorological conditions, such as solar radiation, temperature, and humidity due to a large-scale timber harvesting will affect the surrounding vegetation? (Quote from "17. Forestry") (h) Is there a possibility that a large-scale timber harvesting will result in loss of breeding and feeding grounds for wildlife? (Quote from "17. Forestry")	(a) N (b) Y (c) N (d) N (e) N (f) N (g) N (h) N	(a) The project site does not include ecologically valuable habitats. (b) The project site includes a habitat of one of vulnerable plants, archa which needs to be protected in the Kyrgyz Republic. (c) There are vulnerable plants (archa) but the big impacts are not concerned because only five of them are affected. The road alignment was considered so as to minimize impacts. Also planting 5 trees per one tree cutting is scheduled. (d) There are no particular impacts such as disruption of migration routes etc. (e) Major deforestation is not expected and the impacts on ecosystem are little although cutting work is partially needed in construction. (f) The project site is not located at undeveloped areas. (g) The Impacts on the surrounding vegetation are little because cutting trees are required partially in cutting work section. (h) Same as the above.
3 Natural Environment	(3) Hydrology	(a) Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?	(a) N	(a) Other drainage for Kochku-Bulak Stream will be secured during construction so as not to impact on the water flow. After the construction the use of drainage installed on top of the arch culvert and joining the Chychkan River are planned. There is less possibility to block flow of percolation water. However, it is likely that percolation water level suddenly becomes high. Therefore, underground water drainage by the permeable material such as gravel will be installed on the both side of snow shed.
	(4) Topography and Geology	(a) Is there any soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or	(a) Y (b) N	(a) Ground strength around the project site is secured. The method to prevent debris from falling will be used considering the impacts on the debris.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		landslides, where needed? (b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	(c) N	(b) Appropriate measures such as drainage system on slope surface or slope protection will be adopted. (c) Appropriate measures such as drainage system on slope surface or slope protection will be adopted and the contractor should take measures for preventing soil runoff at disposal sites and sand pits.
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Are the compensations going to be paid prior to the resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(a) Y (b) Y (c) Y (d) N (e) Y (f) Y (g) Y (h) Y (i) Y (j) Y	(a) 1 household (6 people) is affected and need to be relocated. The road alignment was considered so as to minimize impacts. (b) The 1st stakeholder consultation and the hearing to affected people were held by MOTC. The 2nd and the 3rd stakeholder consultation are scheduled after submitting the EIA report to SAEPP. (c) The land that the affected people use is managed by the Forestry therefore the people lose the right of the land use when the lease contract with the forestry is broken. The provision of alternative lands is adopted as the compensation for everything; the compensation for the buildings, relocation cost, moving cost and so on. Relocation will start from April 2015 and the recovery state of their living will be monitored. Detail resettlement plan such as alternative lands will be prepared by MOTC and Toktogul district. (d) Monetary compensation is not planned in the resettlement. (e) MOTC and Toktogul District will make an agreement with affected people and prepare documents after compensation contents are agreed. (f) Affected people include female and children therefore MOTC shall appropriately consider the plan in consideration with them. (g) There are no negative comments to relocation at this time and the agreement will be obtained. (h) MOTC will establish the organization framework and secure budget for the relocation. (i) The monitoring plan has been formulated. (j) The grievance redress committee will be established. There were no comments to the construction project, however the committee would take actions immediately if complaints are made.
	(2) Living and Livelihood	(a) Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these	(a) N (b) Y (c) Y (d) Y (e) N	(a) The affected people in the objective site run apiaries and sell honeys there at the same time. The relocation is necessary because of the project. However they can live with the living standards equal to or more than that of present life so large impacts are not expected. (b) Affected apiaries may compete with other apiaries in the new address, however

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		impacts?(b) Is there any possibility that the project will adversely affect the living conditions of the inhabitants other than the target population? Are adequate measures considered to reduce the impacts, if necessary?(c) Is there any possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?(d) Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., increase of traffic congestion and traffic accidents)?(e) Is there any possibility that roads will impede the movement of inhabitants?(f) Is there any possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference?	(f) N	that can be avoided if the alternative lands are fully considered in advance. (c) There is no possibility that diseases will be brought. (d) A part of existing road may be used as a bypass road when a temporary bypass road is constructed along the river. In order to mitigate the traffic congestion, the contractor shall take measures through advance consultation with MOTC and the local police. (e) No possibility. (f) No possibility.
	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) Y	(a) There are two monuments for avalanche victims however temporary removal and reinstallation of them after construction are considered with cooperation of Toktogul city.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) There are no landscapes to be considered in the project site.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources to be respected?	(a) N (b) N	(a) No special measures are required because ethnic minorities do not settle in the project areas. (b) The rights do not exist to be respected because of no settlements of ethnic minorities and indigenous people.
4 Social Environment	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures being taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) Observation of laws and ordinances are the most important matter therefore it shall be considered in the construction management. (b) The contractor shall ensure that workers put on work wears and helmets, and to introduce devices for safety in order for hazard prevention. (c) The contractor shall plan and practice work safety training and traffic safety in accordance with the Kyrgyz related laws and regulations in order of danger aversion for residents and workers. (d) The contractor shall conduct education and training and control security guards to do no harm. In addition, in preparation for a case that an accident would happen by a security guard, the operator and contractor shall prepare the measures and penal rules.
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate	(a) Y (b) Y (c) Y	(a) The followings are expected as countermeasures against the pollution during construction. - Air pollution: the consultant and the contractor shall strictly maintain and manage construction equipment and prevent unnecessary work of them. They shall sprinkle water and cover with a cover for fling up dust prevention. Furthermore the early




Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		measures considered to reduce impacts?		<p>greening shall be effectively carried out in addition to the prevention of unnecessary traffic and the limit speed for construction vehicles.</p> <p>-Water pollution: The consultant and the contractor shall discharge drainage from the construction site after clarifying turbid water through a turbid water treatment apparatus for the mitigation of the impact on water quality. Also they shall prohibit leaving containers of fuel or lubricant, parking and washing vehicles and leaving construction wastes.</p> <p>- Soil Contamination: The consultant and the contractor shall strictly conduct the daily maintenance and inspection of the construction equipment to prevent leaking gasoline from them.</p> <p>Also they shall store fuel and chemical in the fenced storage with waterproof equipment under control.</p> <p>- Waste: The consultant and the contractor shall carry the construction wastes to the specified disposal site and appropriately treat them. Also byproducts such as trees shall be reused as much as possible.</p> <p>- Noise and Vibration: The consultant and the contractor shall measure noise of the construction equipment during construction and prevent the noise using sound proof cover as necessary. Also noise reducing device and construction work with low noise.</p> <p>- Offensive Odor: The consultant and the contractor shall strictly maintain and manage the construction equipment and prevent unnecessary work of them. Also they shall appropriately treat living wastes for offensive odor prevention.</p> <p>(b) Visitation zone including the vulnerable plants are cut in cutting work, however planting of seedlings will be planed according to the regulations of the Kyrgyz Republic.</p> <p>(c)Traffic congestion and traffic accidents are expected however there will be no large impacts because they will be brought in only the project site.</p>
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?(b) What are the items, methods and frequencies of the monitoring program?(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) Y (c) Y (d) Y	(a) The operator and contractor develop a monitoring plan and manage to secure the environment and to avoid claims from the residents.(b) With reference to other cases, the content for monitoring is determined in accordance with characters of the project site and domestic laws. (c) Monitoring and analyzing of results are implemented by professional staffs during and after the construction. Monitoring is a part of the construction work therefore the cost will be the construction cost.(c) Monitoring and analyzing outputs are conducted by a person with specific ability in the field. Outsourcing the personnel is available. Cost for monitoring is included in the whole construction costs because the activity is a part of the project. (d) The

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
				contractor will report the results of monitoring to MOTC and MOTC will manage them. Also the results of the monitoring will be reported to JICA team after measuring immediately.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation). (b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).	(a) Y (b) N	(a) The items related to the forestry have been added. (b) The indicated works relating power infrastructure do not occur in the Project.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) Y	(a) CO2 emissions with the construction should be taken into account (construction work, equipment operation). Estimation of emission is to be conducted based on an engineering method.

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Annex-4: Environmental Management Plan (EMP) / Monitoring Plan

Environmental Items		Expected Impacts	Mitigation Measures	Implimenting Organization	Monitoring Contents / Frequency
1	Involuntary Resettlement	Affected household: 2 Affected person :7	Implementation of Involuntary resettlement according to the JICA GL; alternative lands where affected people can live with the living standards equal to or more than that of present life shall be prepared for affected people by MOTC with Toktogul district. Compensation for reestablishment of lives is included.	MOTC	<u>At- work</u> - Confirmation of living conditions and their income / every month - Confirmation of grievances / every month <u>In-use</u> *When recover of livelihood is not confirmed at work - Confirmation of living conditions and their income / every month for two years - Confirmation of grievances / every month for two years - Consideration of the necessity for the additional countermeasures for the recover of livelihood.
2	Land Use and Utilization of Local Resources	Use of undeveloped lands as the quarry site.	Preparation of the construction plan and execution of the construction management so as to minimize the land development.	Consultant and contractor	- Confirmation of land use as the quarry / everymonth
3	Existing Social Infrastructures and Services	Use existing road as the temporary bypass.	- Advance consultation with MOTC and the local police. - Limitation of speed for construction vehicles, installation of signs and protective facilities.	Contractor	- Confirmation of the number of grievance against the traffic conjection on the temporary road / everytime when an grievance is accepted
4	Cultural Heritage	Relocation, strage and reinstallation of the monuments of the avalanche vistims.	Appropriate plan and implementation of relocation, strage and reinstallation.	MOTC	- Confirmation of plan and implementation of the monuments of the avalanche vistims / when the plan is formulated and after construction
5	Accident	Accidents and avalanche during construction.	- administration of medical supplies and safety equipment for working at height, provision of enough traffic guides emergency response measures, safety education, meeting every morning and activity for danger prediction such as the installation of road signs. - Record and report of accidents by the environment, health and safety manager.	Contractor	- Confirmation the safety and health plan / everymonth - Report of accidents / when accidents occur
6	Infectious Diseases such	Influx of workers who are HIV	- Strict controll of the use of drugs.	Contractor	- Confirmation of implementation status of

Appendix 4-3-17

Environmental Items		Expected Impacts	Mitigation Measures	Implimenting Organization	Monitoring Contents / Frequency
	as HIV/AIDS	positive.	- Implementation of the campain to prevent unprotected sexual acivities users by the experts and police		control of the drug use and the campain / everymonth
7	Work Environment (incl. Work Safety)	Injuries and accidents of workers.	- Requirements of wearing working clothes and helmets for workers - Impementation of enlightening acivities of occupational health - Establishment of the emergency response system when accidents occur.	Contractor	- Confirmation of wearing state of working clothes and helmets/ everyday - Confirmation of implementation status of enlightening acivities / everymonth - Report of accidents / when accidents occur
8	Gender	Wage disparities between men and women workers.	Regular monitoring of the wage ledgers of the original, sub and sub-sub contractor.	Consultant	- Confirmation of the wage ledgers / everymonth
9	Ecosystem	Lambling of trees.	- Preparation of the construction plan taking the schedule of lumbering of and plant of archa into consideration. - Systematic lumbering of archa and planting of seedlings and appropriate construction management after planting.	Consultant and contractor	- Confirmation of the planting plan of archa and the implementation status of planting / when the plan is formulated and after planting
10	Hydrological Situation	Change of water flow of Kochku-Bulak Stream	Preparation and appropriate excution of the drainage plan.	Consultant and contractor	- Confirmation of water flow by visulal obseravation / everyday
11	Air Pollution	Spread of global warming gas by costruction equipment	- Strict maitainance and management of the construction equipment and prevent unnecessary work of them. - Water sprinkling and the use of cover with a cover -Air quality monitoring quarterly	Consultant and contractor	- Confirmation of air by visulal obseravation / everyday - Water sprinkling for dust generated point / when needed - Air quality monitoring (SO ₂ ,CO,SPM) (three points) / quarterly
12	Water Pollution	Water pollution by drange	- The use of a turbid water treatment apparatus etc. - Water quality monitoring monthly	Consultant and contractor	- Water quality monitoring (pH, SS, DO) (three points) / monthly
13	Soil Contamination	Soil contamination by leaking asphalt or gasoline from the construction equipment into the soil.	- Strict conduct of the daily maintenance and inspection of the construction equipment.	Consultant and contractor	Monitoring of the leaking status / everyday
14	Waste	Construction wastes and living wastes.	- Appropriate treatment of wastes at the specified disposal - Reuse of lumbered trees etc.	Contractor	- Confirmation of the record of waste transportation / every month
15	Noise and Vibration	Noise and vibration by the construction equipment.	- The use of sound proof covers etc. - Adoption of noise reducing device and	Consultant and contractor	Noise and vibration monitoring (three points) / quarterly

Environmental Items		Expected Impacts	Mitigation Measures	Implimenting Organization	Monitoring Contents / Frequency
			construcion work with low noise. - Noise and vibration monitoring quarterly		
16	Offensive Odor	Offensive odor from emitted gas or waste.	- Strict maitainance and management of the construction equipment and prevention of unnecessary work of them. - Appropreate treatment of living wastes. - Wasete management monitoring monthly	Contractor	- Confirmation of the record of waste management / everymonth

The above draft environmental management plan is the preliminary plan. The detail plan is determined in consideration of the requirement of environmental protection by MOTC before the construction




Annex-5 : Monitoring Form

1. Pollution

1) Air Quality (Emission Gas / Ambient Air Quality)

Item	Measured Value (Mean)	Measured Value (Max.)	Country's Standards ^{*1}	Referred International Standards (Japan)	Remarks (Measurement Point, Frequency, Method, etc)
SO ₂	A-T1 :	A-T1 :	0.5 mg/m ³	0.04 ppm	-Point: the same point as the baseline survey (3 points) -Frequency: See*1 -Method: the same method as the baseline survey (3 times 2days)
	A-T2 :	A-T2 :			
	A-T3 :	A-T3 :			
CO	A-T1 :	A-T1 :	5 mg/m ³	10 ppm	
	A-T2 :	A-T2 :			
	A-T3 :	A-T3 :			
SPM	A-T1 :	A-T1 :	0.5 mg/m ³	0.10 mg/m ³	
	A-T2 :	A-T2 :			
	A-T3 :	A-T3 :			

*1: Quarterly or adjusted based on air pollutant-generating activities. Semiannually in 2 years (in-use).

2) Water Quality (Effluent/Wastewater/Ambient Water Quality)

Item	Measured Value (Mean)	Measured Value (Max.)	Country's Standards ^{*1}	Referred International Standards (Japan)	Remarks (Measurement Point, Frequency, Method, etc)
pH	W-T1 :	W-T1 :	6.5-8.5	6.5-8.5 (6.5-8.5)	-Point: the same point as the baseline survey (3 points) -Frequency: monthly -Method: the same method as the baseline survey
	W-T2 :	W-T2 :			
	W-T3 :	W-T3 :			
SS	W-T1 :	W-T1 :	< 0.75	<25 mg/l (<50 mg/l)	
	W-T2 :	W-T2 :			
	W-T3 :	W-T3 :			
DO	W-T1 :	W-T1 :	> 4.0	>5 mg/l (>5 mg/l)	
	W-T2 :	W-T2 :			
	W-T3 :	W-T3 :			

*1: Country's Standards: Maximum permissible concentration (MPC) of chemicals in Water of drinking and cultural and community uses. Hygiene regulations GN2.1.5.1315-03
Referred International Standards (Japan): Class B (Class C), Class 4 (Class C applied for management standards)

3) Soil

Monitoring Item / Frequency	Monitoring Results during Report Period
Monitoring of the leaking status / everyday	

4) Waste

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of the record of waste transportation / every month	

5) Noise and Vibration

Item	Measured Value (Mean)	Measured Value (Max.)	Country's Standards*1	Referred International Standards (Japan)	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level	A-T1 :	A-T1 :	75dB	45-55 dB	-Point: the same point as the baseline survey (3 points) -Frequency: quarterly -Method: the same method as the baseline survey
	A-T2 :	A-T2 :			
	A-T3 :	A-T3 :			
Vibration level	A-T1 :	A-T1 :	83 dB	60-65 dB	
	A-T2 :	A-T2 :			
	A-T3 :	A-T3 :			

*1: Country's Standards: Maximum allowable vibration levels of work places Category 3 - technological type "B"
Referred International Standards (Japan): Region A (residential area)

6) Odor

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of the record of waste management / every month	

2. Natural Environment

1) Ecosystem

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of the planting plan of archa and the implementation status of planting / when the plan is formulated and after planting	

2) Hydrological Situation

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of water flow by visual obseravation / everyday	

3. Social Environment

1) Living / Livelihood

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of living conditions and their income / every month	
Confirmation of grievances / every month for two years	

2) Land Use and Utilization of Local Resources

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of land use as the quarry / every month	

3) Existing Social Infrastructures and Services

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of the number of grievance against the traffic conjection on the temporary road / every time when an grievance is accepted	

4) Cultural Heritage

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of plan and implementation of the monuments of the avalanche victims / when the plan is formulated and after construction	

5) Accidents

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation the safety and health plan / every month	
Report of accidents / when accidents occur	

6) Infectious Diseases such as HIV/AIDS

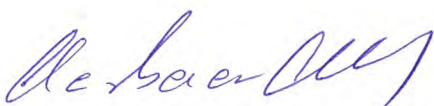
Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of implementation status of control of the drug use and the campaign / every month	

7) Infectious Diseases such as HIV/AIDS

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of wearing state of working clothes and helmets / everyday	
Confirmation of implementation status of enlightening activities / every month	
Report of accidents / when accidents occur	

8) Gender

Monitoring Item / Frequency	Monitoring Results during Report Period
Confirmation of the wage ledgers / every month	



Appendix-5

Technical Notes

Appendix-5-1

Technical Notes (1)

**Ministry of Transport and Communications
Kyrgyz Republic**

**PREPARATORY SURVEY
ON
THE PROJECT FOR AVALANCHE PROTECTION
ON
BISHKEK – OSH ROAD
IN THE KYRGYZ REPUBLIC**

TECHNICAL NOTES

JULY 2014

**JAPAN INTERNATIONAL COOPERATION AGENCY
CTI ENGINEERING INTERNATIONAL CO., LTD.**

Preparatory Survey on the Project for Avalanche
Protection on Bishkek-Osh Road
in the Kyrgyz Republic

Technical Notes

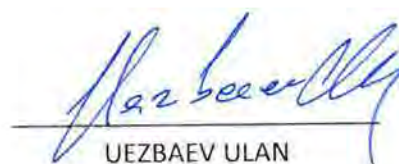
JICA Survey Team for the Preparatory Survey (the Survey Team) has confirmed the items described in the attached Technical Notes concluded by the representative of the Ministry of Transport and Communications, Kyrgyz Republic (MOTC) which is the responsible and implementing organization on the Project for Construction of the Avalanche Protection on Bishkek-Osh Road in the Kyrgyz Republic (the Project), with representatives of concerned Ministries as the witness. Based on the Technical Notes, the Survey Team plans to conduct the basic design for the Project including the project cost estimate through analysis of the site survey findings after obtaining the approval from Japan International Cooperation Agency (JICA).

The results of the analysis and basic design are planned to be presented and explained in December 2014.

Bishkek city, Kyrgyz Republic
July 17, 2014



YUZO MIZOTA
Chief Consultant
JICA Survey Team



UEZBAEV ULAN
Deputy Minister,
Ministry of Transport
and Communications
Kyrgyz Republic



MAMAEV KUBANYCHBEK
Director, IPIG
Ministry of Transport
and Communications
Kyrgyz Republic
(Witness)



1. ROAD DESIGN

1.1 Design Standard

Reference shall be made to the following manuals and standard specifications for the basic design requirement of roads and bridges:

- Highway Design (SNiP KR 32-01:2004)
- Bridge and Culvert (SNiP 2.05.03-84: 2011)
- Construction in Seismic Area (SNiP KR, 20-02: 2009)

In addition to the above guidelines when other aspects of design are not covered or when a safer and more efficient requirement is indicated, the design shall refer to other standards including:

- AASHTO Policy on Geometric Design Highway and Streets, 2011
- AASHTO Guide for Design of Pavement Structure, 1993
- Road Design Ordinances, Japan, 2004
- Specifications for Highway Bridges, Japan Road Association, 2012
- Design Guideline for Culvert, Japan Road Association, 2010

1.2 Beginning Point and Ending Point of the Project

The Project road consists of snow shed and its access road as shown Appendix-1. Station numbers of the beginning and ending points are specified as below.

Beginning point of the Project: Sta. 0+000

Ending point of the Project: Sta. 1+003

Snow-shed section: Sta 0+360- Sta 0+810 (L=450m)

1.3 Criteria on Road Design

(1) Road Category

Based on the SNiP and traffic survey result which was conducted on March 2014, Road category is III.

(2) Design Speed

Design speed in mountainous terrain prescribed in SNiP is 50km/h as shown below. On the other hand, existing terrain condition can accommodate more relaxed design speed and many of section along Bishkek-Osh road including the Project site have been designed as 60km/h in design speed. In order to maintain current traffic flow and its safety, 60km/h of the design speed shall be applied for this project section.

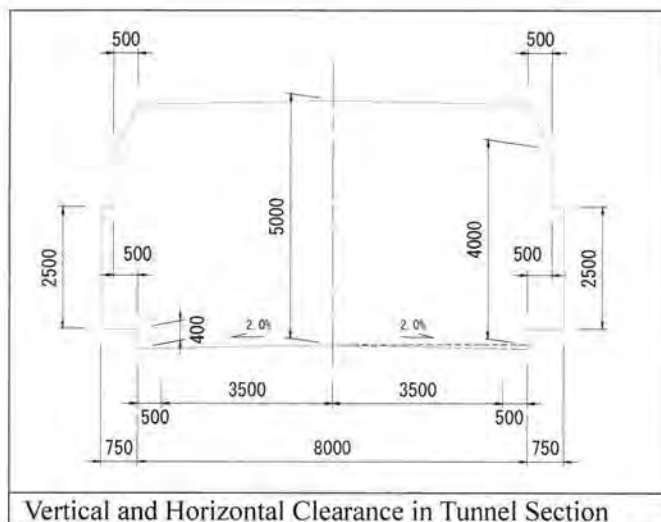
Road category	Design speed, km/h		
	Basic design speed	Admissible design speed in the difficult sections of terrain and in confined spaces	
		Stiff terrain	Mountainous terrain
IA	140	110	70
IB	120	100	60
II	120	100	60
III	100	80	50
IV	80	60	40
V	60	40	30

Source: Highway Design (SNiP KR 32-01:2004) Table 4.2.1 –Design Speed

(3) Cross Section Element

Cross section elements are proposed as below comparing with Kyrgyz standard and other international standards. Typical Cross sections are shown in Appendix-2,

Item	Proposed	SNiP(Kg)	Asian Highway	AASHTO	Japanese Standard
Road Category	Category III	Category III	Class II (Steep)	Rural Arterial	Type 3 Class 4
Design Speed (km/h)	60	50~80	40	60	60
Vertical Clearance (m)	5.0	5.0	4.5	4.3~4.9	4.5
Width of Carriage Way (m)	3.5	3.5	3.5	3.6	2.75
Width of Shoulder (m)	0.5	0.5	2.0	0.6~2.4	0.75
Unpaved Un-paved Shoulder (m)	2.0	2.0			0.75
Cross fall of Paved Area (%)	2.0	2.0	2.0	1.5~2.0	1.5~2.0
Cross fall of Un-paved Area (%)	4.0	-	3.0~6.0	1.5~2.0	1.5~2.0
Maximum Super-elevation (%)	4.0	4.0		6.0	6.0



(4) Geometric Criteria

Geometric criteria is proposed as below based on comparison with Kyrgyz standard and other international standard under the condition of 60km/h in the design speed.

Item		Proposed	SNiP (Kg)	Asian Highway	AASHTO	Japanese Standard
Road Classification		Category III	Category III	Class II (Steep)	Rural Arterial	Type-3 Class-4
Minimum Horizontal Curve		330 or more	150m	115 m	125m 以上	150m
Minimum Curve Length		100m	-	N/A	180m	100m
Sight Distance	Stopping	85m	85m	50m	85m	75m
	Passing	N/A	170m	-	315m	-
Widening at Horizontal Curve*		0.0m	1.1m : R=325m 0.9m : R=425m	-	Disregarded	0.0
Minimum Length of Transition Curve		100m	100m	50m	50m	50m
Maximum Radius for Use of a Spiral Curve Transition		2000m	2000m	500m	213m	500m
Maximum Vertical Grade		4 %	7%	7%	6%	5%
Minimum Vertical Curve	Crest	2500m	2500m	-	1100m	1400m
	Sag	1500m	1500m	-	1800m	1000m
Minimum Vertical Curve Length	Crest	300m	300m	-	-	50m
	Sag	100m	100m	-	-	50m

SNiP (Kg): Highway Design (SNiP KR 32-01:2004)

AASHTO: A Policy on Geometric Design of Highways and Streets, 6th Edition (2011)

Asian Highway: Asian Highway Classification and Design Standards (ESCAP; 2001)

Japanese Standard: Japan Road Structure Ordinance (2012)

*Widening at Horizontal Curve; Road design standard of Kyrgyz has shown that 0.9~1.1m widening would be required at horizontal curve with R=325~425m although no widening is required in other international standards. Simulation was made by "Traveling Track Generation Software" on the R=330m as shown in Appendix-3 to confirm exact width of carriage way to accommodate two semitrailer in R=330m. As the result, 3.5 m width of carriage way without widening was satisfied with above situation with safer clearance of 0.5m or more. Since the widening at tunnel section affects to increase in construction cost, the value of widening shall be determined based on practical requirement.

1.4 Pavement Design

(1) Road and Climatic Zone

Road and Climatic Zone of the project site is Class (III).

(2) Type of Pavement

a) Snow-shed Section

Rigid type (concrete) pavement is applied in the tunnel section to minimize maintenance work during the operation since traffic control would be difficult in terms of road safety.

b) Connecting Road Section

Asphalt pavement would be recommended in terms of traffic safety and construction cost.

(3) Frost heaving

Anti-frost heaving layer shall be provided in accordance with Highway Design (SNiP KR 32-01:2004).

(4) Pavement Thickness

The thickness of pavement shall be analyzed based on Russian standard such as "ODN 218.046-01 Design of Non-rigid Pavement". Pavement design analysis based on AAHTO shall be supplementary examined to propose safer pavement structure.

1.5 Drainage Design

(1) Drainage System

Drainage system in the project site is proposed as shown Appendix-4. Outlet of the drainage shall be designed to accommodate the storm-water discharge from catchment area including road side slope. Existing drainage among road side slope shall be diverted to new drainage to be constructed along new embankment.

(2) Design Discharge

Culvert for drainage shall be designed based on peak discharge estimated under the 2% provability in accordance with "7.7 Drainage Structure" in SNiP KR 32-01:2004. (Maximum recorded water level at the site will be deemed as equivalent to above discharge)

1.6 Road Facility

(1) Street Lighting

Following points have been requested by MOTC to be examined in Japan by JICA Study Team.

- Lightings in the Snow-shed section and outside of the snow-shed section are required for traffic safety.
- LED has been commonly used for the illuminant of street lighting in Kyrgyz.
- Lighting control system is required to modulate the brightness in accordance

with light condition of the outside.

- Emergency lighting is required in snow-shed section for traffic safety during power failure. Power generator for the emergency lighting can be procured by MOTC as needed.
- Low-voltage power distribution board will be covered by Japan's grant aid and Approx. 50 kVA in total of transformed electric power supply will be required for the street lighting at the Project Site to be provided by MOTC.

(2) Pull-off

Emergency Pull-off shall be designed at the both side of entrances of the snow shed to secure the space of U-turn for trailers in case the road is stacked by avalanche.

(3) Traffic Signboard

Procurement and installation of the traffic signboard shall be borne by MOTC as appropriate.

(4) Delineator

Delineator and safety visual guidance would be considered in Snow-shed section.

2. SNOW-SHED DESIGN

2.1 Type of the Structure

Concrete arch culvert type will be proposed. Pre-cast segment method and Cast in-situ method will be examined and compared in terms of construction cost and its period. Unconfined compressive strength of the concrete for arch culvert shall be 30 MPa or more.

2.2 Design Load

(1) Avalanche Load

Design Avalanche Load shall be estimated based on 42m in height from existing road surface. Unit weight of accumulated snow inclusive of debris is estimated 6 kN/m³ (0.60 tf/m³) based on site test.

(2) Seismic Load

Construction in Seismic Area (SNiP KR, 20-02: 2009) shall be applied to estimate seismic load for the structure. Seismic Intensity of the project site is "9" in accordance with above code.(See Appendix-5)

3. CONSTRUCTION PLAN

3.1 Temporary Stock Yard

The temporary stock yard of 2ha (200mx100m) will be required in case precast segment type culvert

has been selected. Possible location of the construction yard, such as stock yard disposal site, asphalt plant and quarry to be secured by MOTC are shown in Appendix-6.

3.2 Quarry and Disposal Sites

Candidate site for Quarry and Disposal Sites to be utilized during the project implementation have been plotted on Appendix-6.

3.3 Asphalt Plant

Asphalt concrete can be procured from the asphalt plant of DEP 23 located in Toktogul during the implementation. The location is shown in Appendix-6.

3.4 Traffic Control

Temporary road shall be constructed during the construction to maintain existing traffic flow. One-lane traffic control with traffic signal and guard man will be accepted during the construction period in the stretch of 200m or less.

4. ENVIRONMENTAL AND SOCIAL CONSIDERATION

4.1 Implementation of EIA

MOTC has agreed on implementation and the procedures of the Environmental Impact Assessment (EIA) in accordance with draft implementation schedule as shown Appendix-7. EIA report shall be submitted under the responsibility of MOTC by the end of August 2014 and to be approved by the end of November 2014.

4.2 Resettlement and Compensation

Resettlement and compensation for following table shall be carried out under the responsibility of MOTC. The location map is shown in Appendix-8.

Location	Item	Quantity	Condition
BO Road 246km section	Apiary	2 (One each in Bishkek side and Toktogul side.)	<ul style="list-style-type: none"> • One (1) apiary of Bishkek side is affected by connecting road. • One (1) apiary of Toktogul side is mobile type with dwelling. • Residents of the Bishkek side is six people. • The term of current lease contract of Bishkek side's is from 2010 to 2016. It will be extended to 2049 automatically after 2016. • The period of annual stay is from March to October. • These apiaries shall be relocated to alternative site under the responsibility of MOTC.

	Cenotaph for avalanche victims	2 (1 location)	<ul style="list-style-type: none"> • Cenotaph is located on new road alignment of the project. • The installation personnel may be identified in the lion (region government) office because the application for installation should have been submitted to the region government office. • If impossible to identify, relocation of cenotaph will be requested to the region government office.
	Archa ¹ (Trees protected by law)	3	<ul style="list-style-type: none"> • Tree of archa which is designated as protected species are located on new road alignment of the project. • It is necessary to discuss for the compensation measures with SAEPF², and to get permission for felling. • Compensation measures will be planting or compensation by money. The measures will be decided at the stage of detailed design. • MOTC will be sent the letter to SAEPF for the solution of the problem.
Storehouse for road maintenance equipment of DEP	Apiary	10	<ul style="list-style-type: none"> • This place will be utilized for concrete plant or the yard for temporary placement of soil generated by construction. • There are about 10 apiaries in the place. • The contract for land lease has renewed in last year. The contract period is more 10 years. • These apiaries shall be relocated to alternative site under the responsibility of MOTC.
Toktogul city	Candidate site for quarry	1	<ul style="list-style-type: none"> • MOTC shall be responsible for obtaining permission from related organizations to use the quarry.

¹ Tree of Archa is protected to cut down by the law of Kyrgyz Republic.

² SAEPF : State Agency of Environment Protection Forestry

5. UTILITIE RELOCATION

Fiber optics cables which has been installed in project site by “Telecom” shall be relocated before construction of the Project would be started. It was agreed that relocation cost of the cable shall be borne by MOTC.

6. UNDERTAKINGS BY REPUBLIC OF KYRGYZ

6.1 Major Tasks to be undertaken by Each Government

The major tasks to be undertaken by each government have been confirmed in the Minutes of Discussions dated 1st April 2014 (Appendix -9).

6.2 Tax Exemption Related to Construction

The Kyrgyz side shall issue exemption certificates for all concerned members working for the Project from Customs duties, internal taxes and other fiscal levies that may be imposed in Kyrgyz with respect to the supply of products and services, including the exemption certificate.

6.3 Land Acquisition and Resettlement

The Kyrgyz sides shall secure the land required for the construction and proceed required actions for resettlement.

6.4 Permission for Construction Yards

Kyrgyz side shall cooperate to obtain permissions on usage of temporary stock yard, disposal site, and quarry.

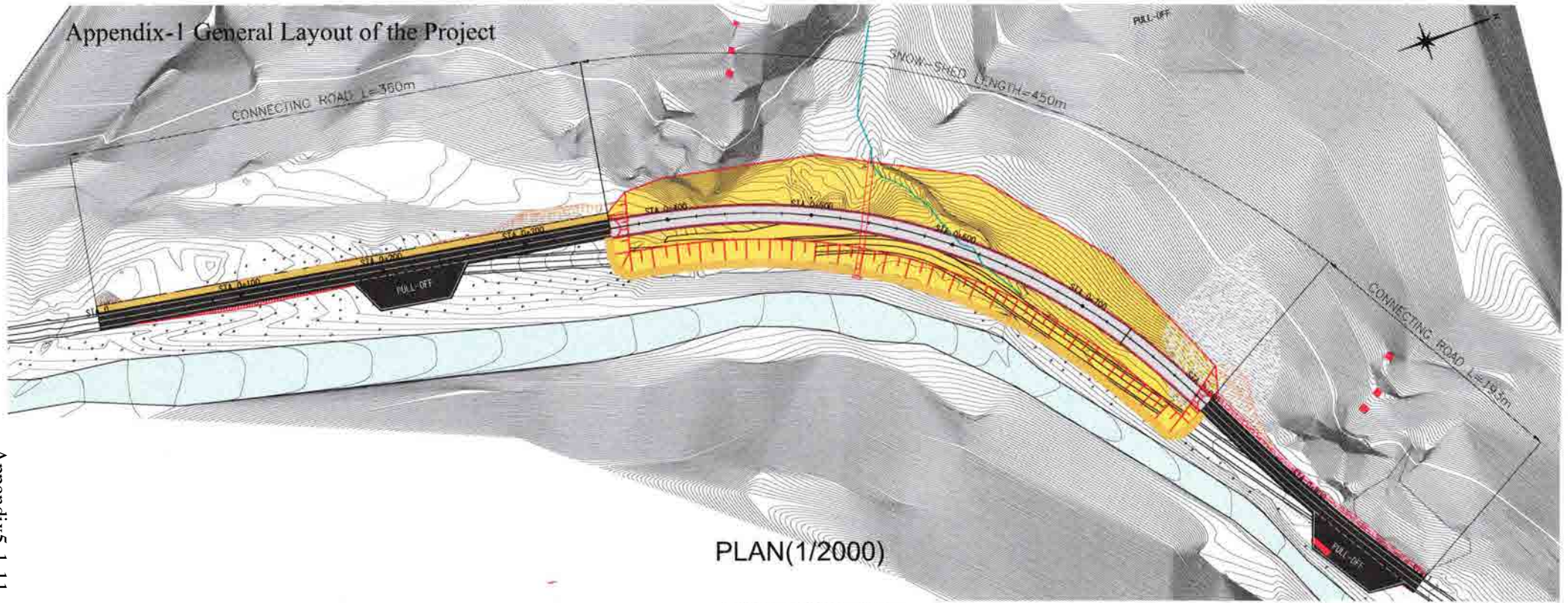
6.5 Relocation of Utilities

Fiber optics cable affected to construction of the Project shall be relocated under the responsibility of MOTC.

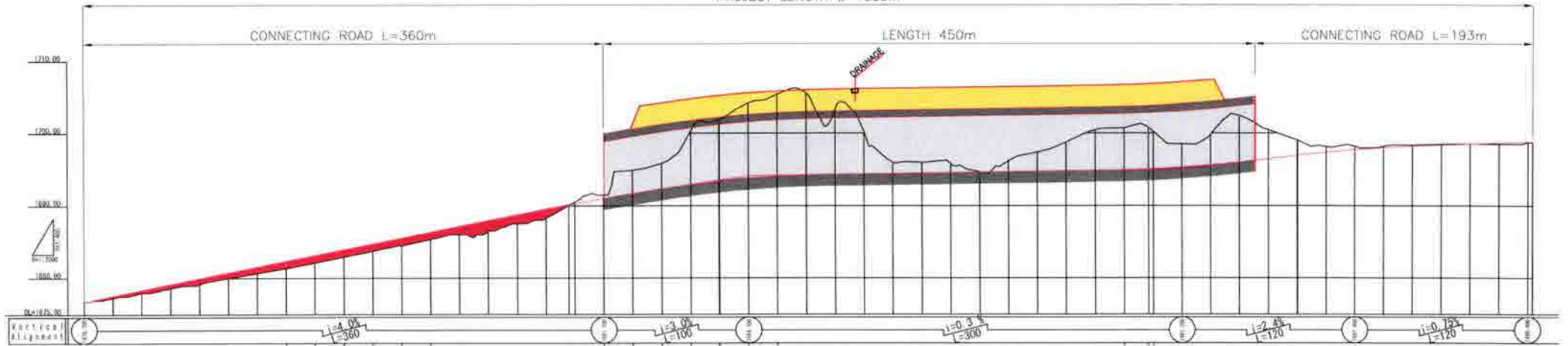
6.6 Electric Power Supply

Electric Power Supply at the Project Site shall be prepared by MOTC for street lighting and road operation purpose. Distribution panel to be installed at the project site for street lighting will be borne by Japan's Grant Aid.

Appendix-1 General Layout of the Project

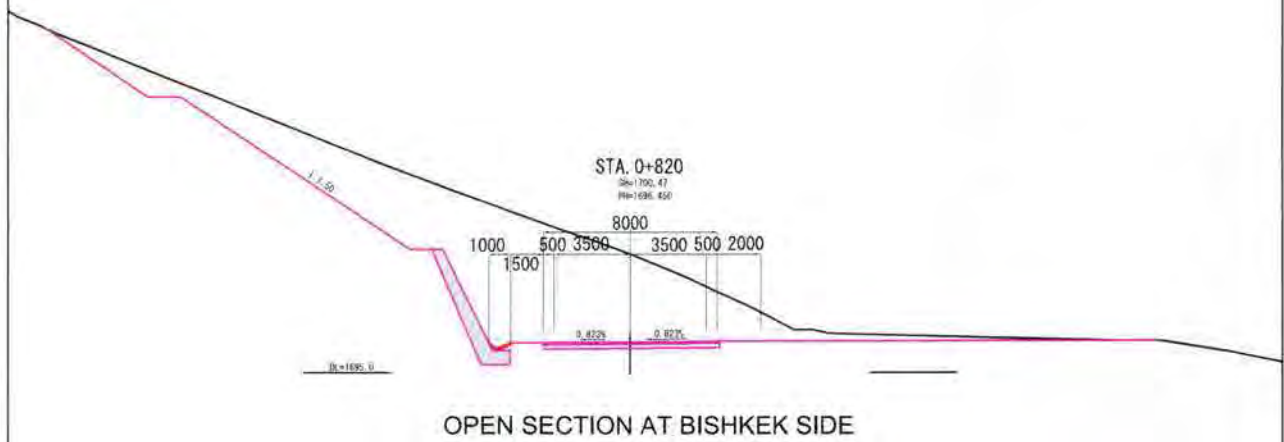
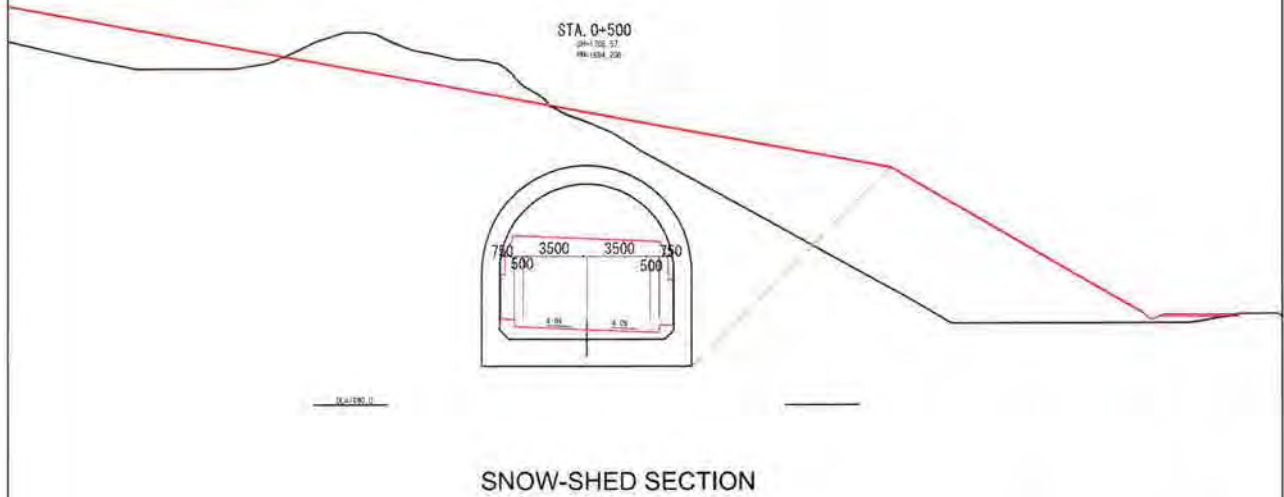
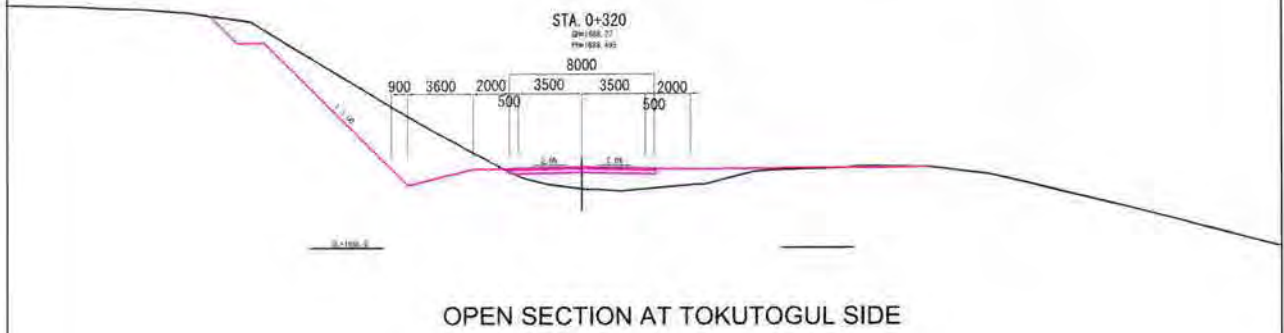


PROJECT LENGTH L=1003m



PROFILE

Appendix-2 Typical Cross-sections



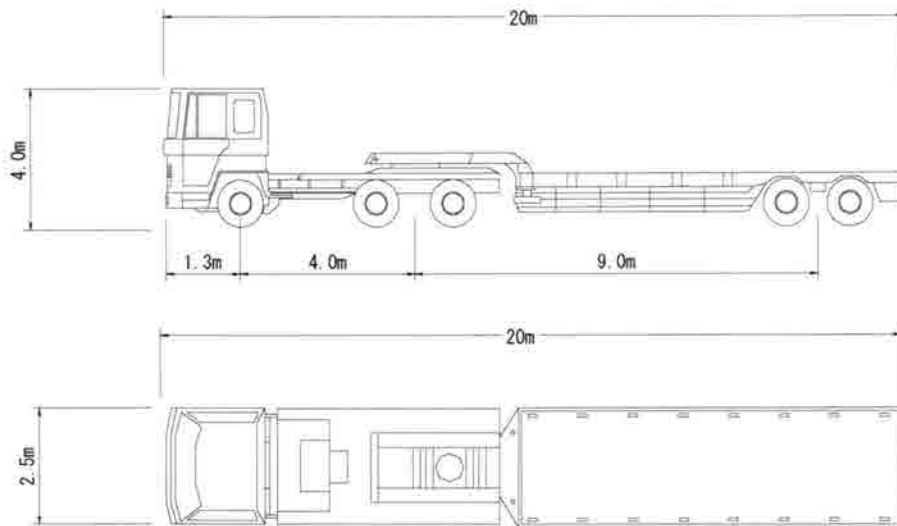
TYPICAL CROSS-SECTIONS

Appendix-3 Examination of Road Width by "Traveling Track Generation Software"

1. Input Data

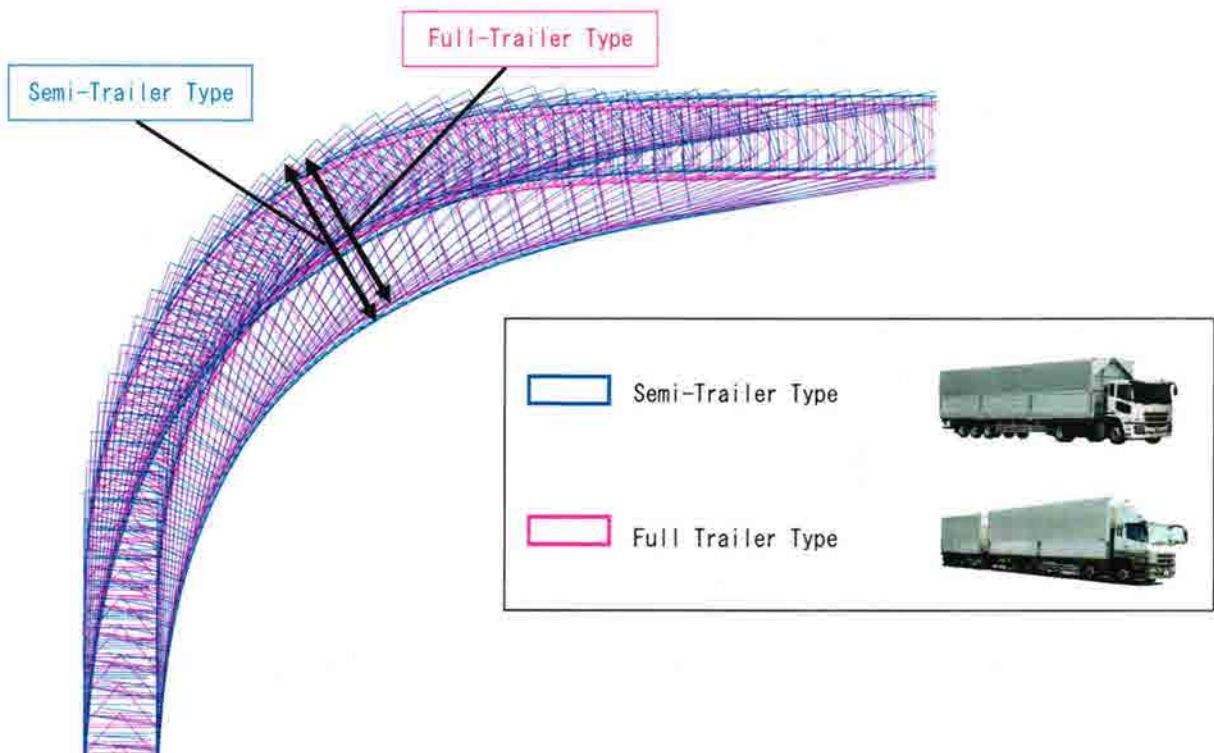
(1) Vehicle Dimension:

SNiP: Length : 20m Width: 2.5m, Height: 4.0m



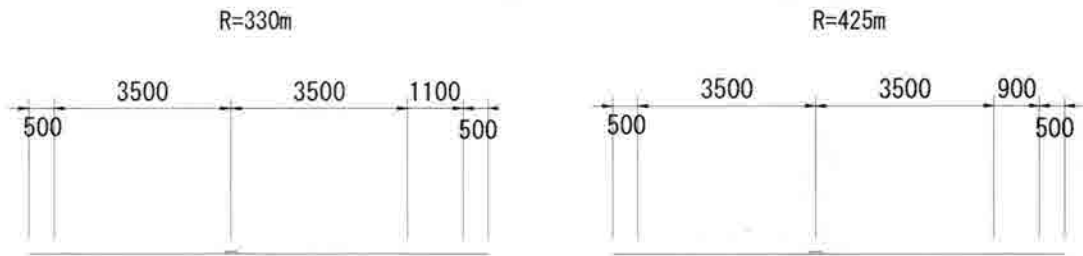
(2) Type of Vehicle

In comparison with Semi-Trailer Type and Full Trailer Type, the turning radius of Semi-trailer for 40ft container type is much smaller than Full Trailer Type. Therefore the summarization would be carried out based on the data of Semi-Trailer Type.



(3) Kyrgyz Regulation of Road Widening at Horizontal Curve

In accordance with SNiP KR 32-01:2004, 1.1m of road widening is required for R=330, and 0.9m of widening for R=425m as shown below.



2. Conclusion

Both of R=330m and R=425m can accommodate the Semi-Trailer in the same section with sufficient clearance (50cm or more). The Result of shows that the widening at this range of horizontal curve is not required as same conclusion of other international standard.

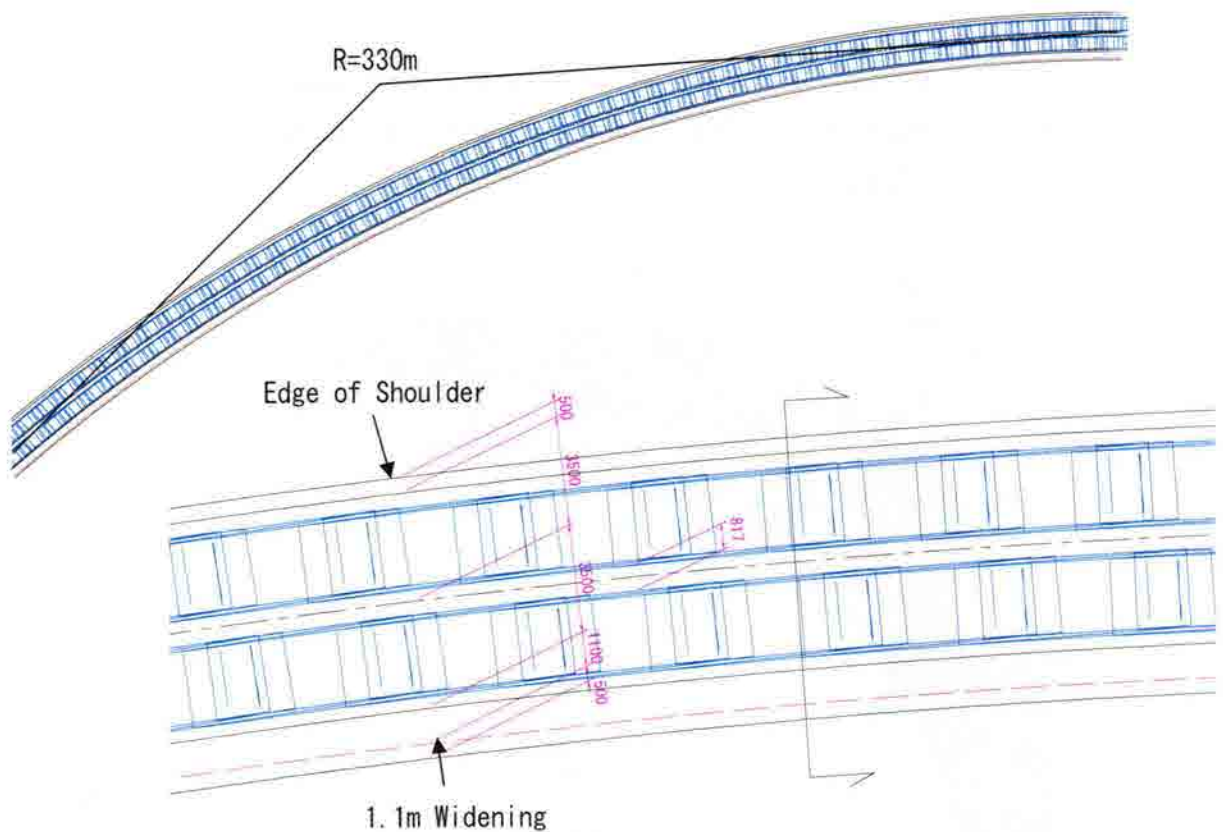


Figure Simulation result for R330m by "Traveling Track Generation Software"

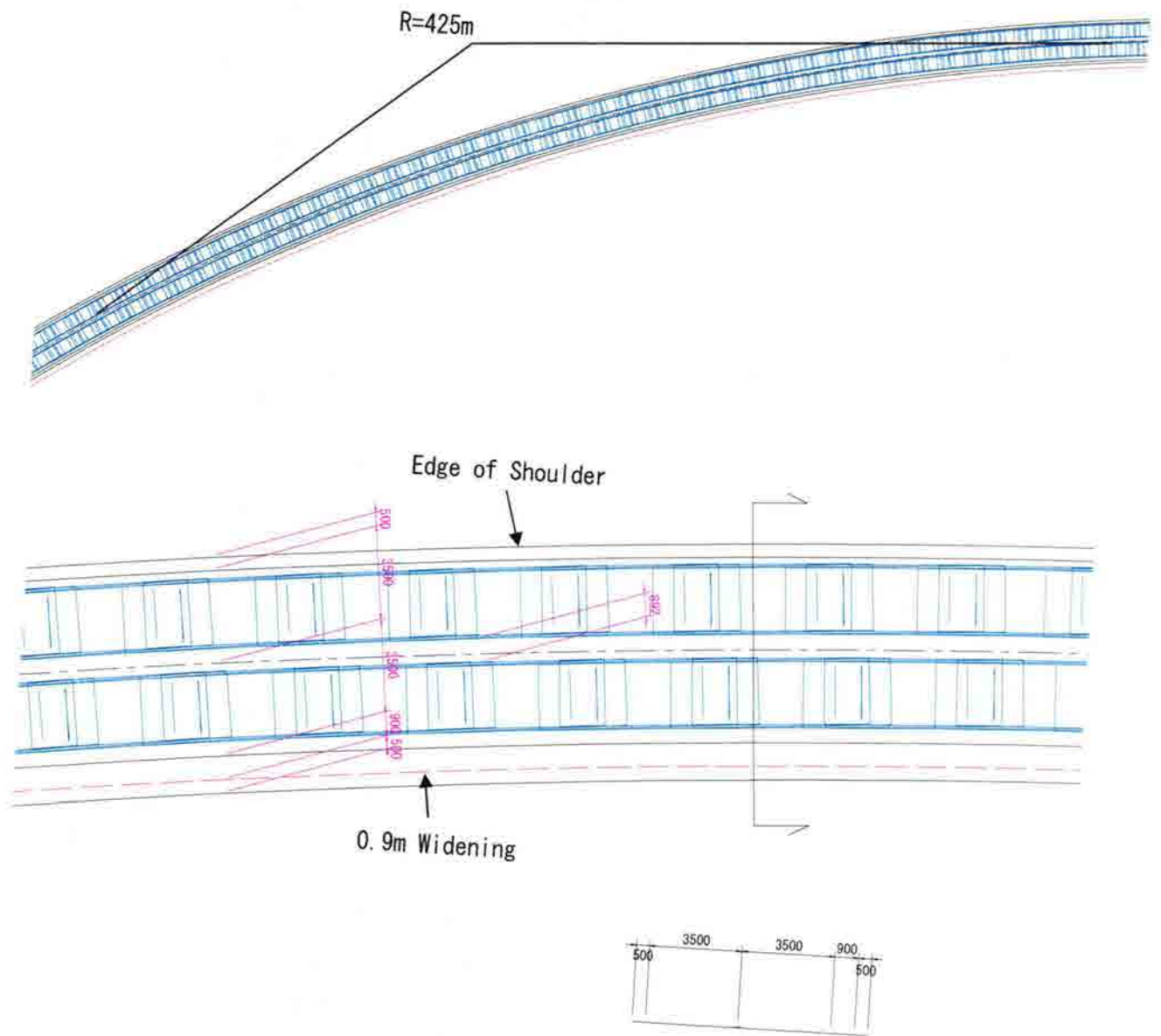
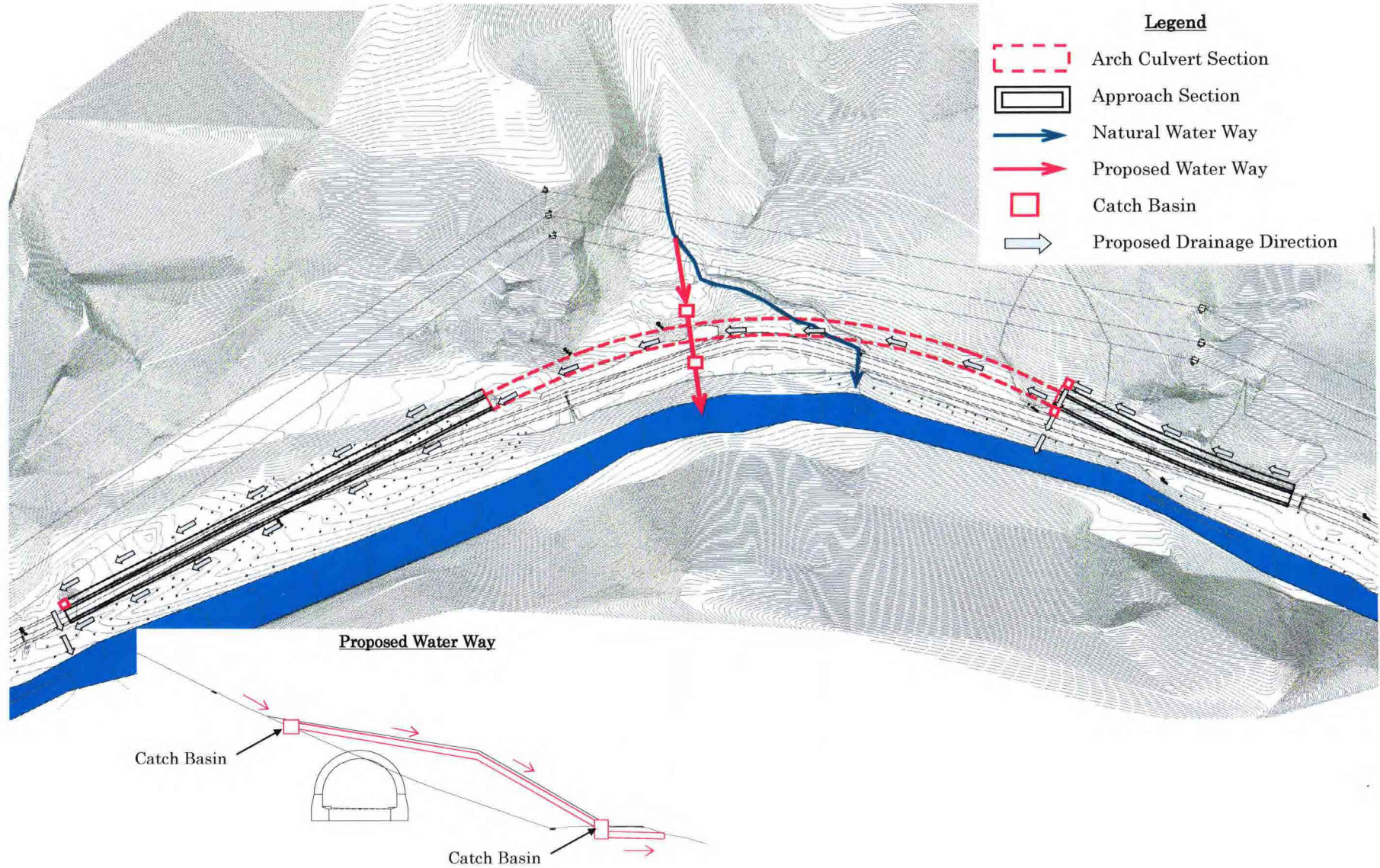


Figure-2 Simulation result for R425m by "Traveling Track Generation Software"

Appendix-4 Proposed Drainage System

Drainage System

Appendix5-1-16



Appendix-5 Seismic Zone

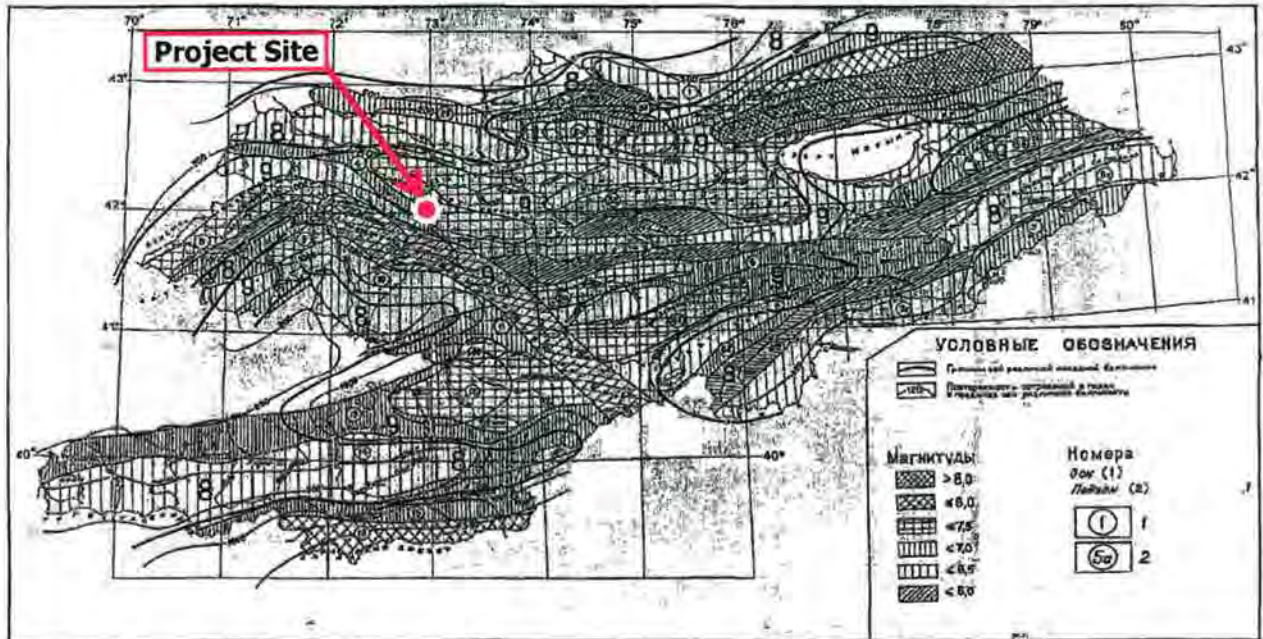
СНип КР 20-02:2009

Приложение Б
(обязательное)

Карта сейсмического районирования территории Кыргызской Республики

М 1:1 000 000

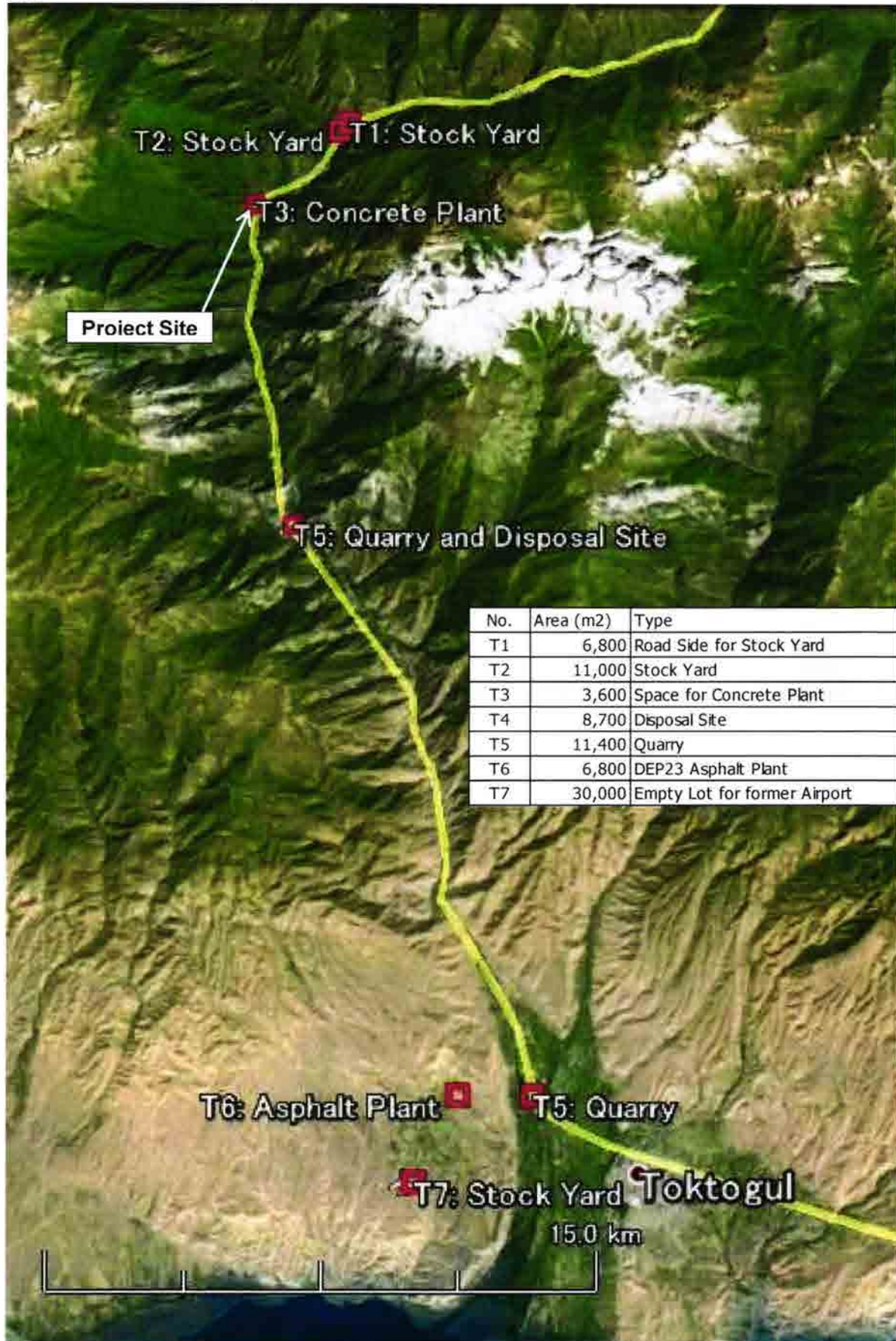
2011 год



88

(В редакции Изменения № 1 утв. Приказом Госстройреглапрзвтия от 02.04.2012 г. № 27)

Appendix-6 Location Map of Construction Yards



Appendix-7 Draft Implementation Plan of EIA, Resettlement and Compensation

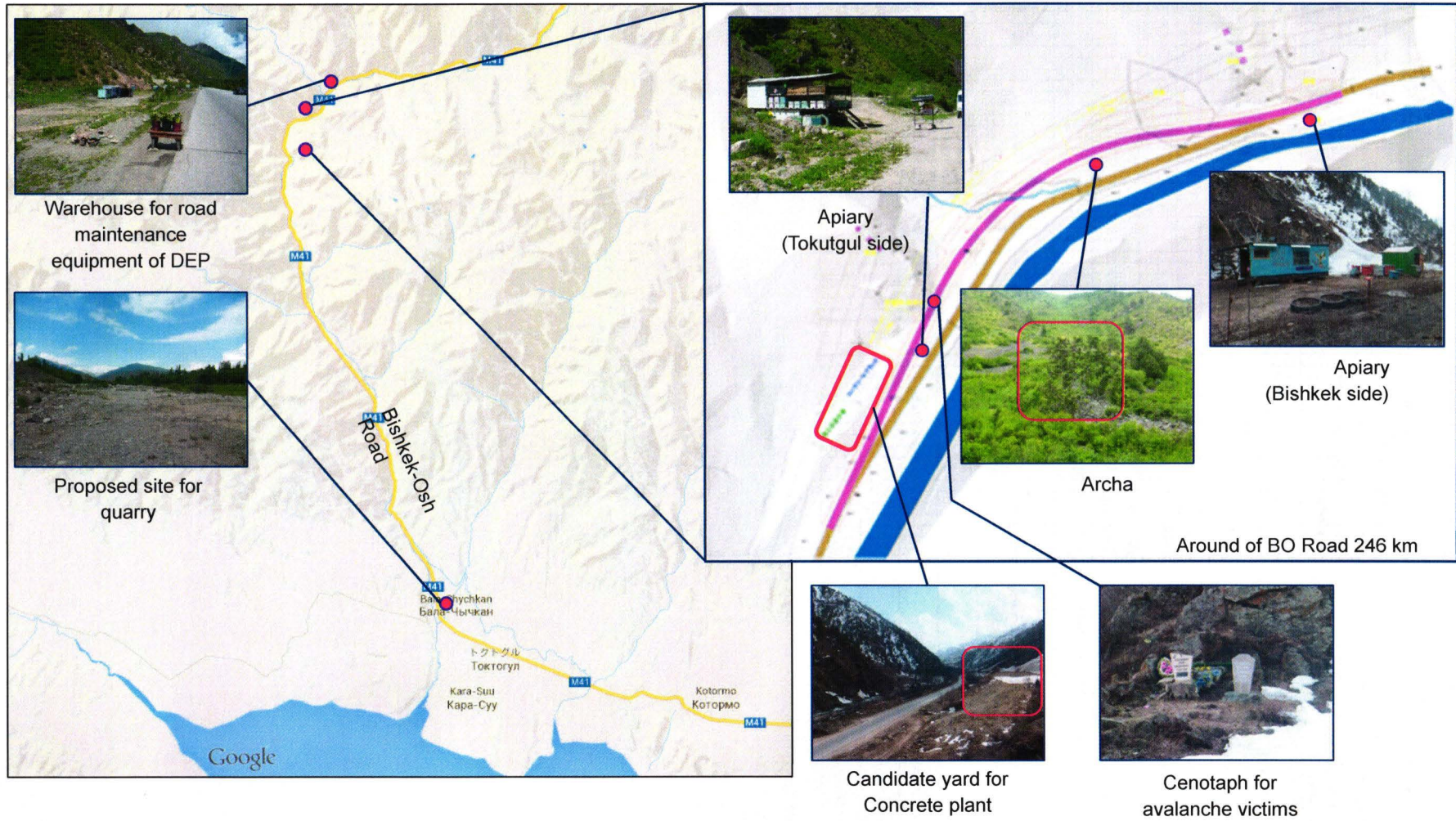
	2014						2015													
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
Environmental Impact Assessment (EIA) to be conducted by MOTC	█																			
1) Permission of quarry site use	█	█																		
2) Permission of land use for worksite office, plant facilities, equipment yard, etc...	█	█																		
3) Planning of movement for the monuments, apiaries, etc.	█	█																		
4) Estimation of compensation cost for tree cutting	█	█																		
5) Estimation of property for residents affected by the Project	█	█																		
6) Estimation of whole compensation costs	█	█																		
7) Completion of EIA report	█	█																		
2 Public meeting with local governments and local residents (Toktogul rayon)	▲	(Public Meeting on July 2)					▲													
3 Submission of EIA from MOTC to SAEPF 1)			▲																	
4 Examination of EIA report by SAEPF for approval			█	█	█	█														
5 Cutoff Date										▲										
6 Provision of compensation budget by MOTC			█	█	█	█														
7 Resettlement and Compensation																				
8 Commandment of construction works																				▲

Note:

i) SAEPF: State Agency on Environment Protection and Forestry

Appendix-8 Location Map of Resettlement and Compensation

Appendix5-1-20



Appendix-9 Major Undertakings to be taken by Each Government

Annex-5: Major Undertakings to be taken by Each Government

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

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

Appendix-5-2

Technical Notes (2)

**KYRGYZ REPUBLIC
MINISTRY OF TRANSPORT AND COMMUNICATIONS**

**PREPARATORY SURVEY
ON
THE PROJECT FOR AVALANCHE PROTECTION
ON
BISHKEK – OSH ROAD
IN THE KYRGYZ REPUBLIC**

TECHNICAL NOTES (2)

SEPTEMBER 2014

**JAPAN INTERNATIONAL COOPERATION AGENCY
CTI ENGINEERING INTERNATIONAL CO., LTD.**

**Preparatory Survey on the Project
for Avalanche Protection of Bishkek-Osh Road
in the Kyrgyz Republic**

TECHNICAL NOTES

The JICA Survey Team for the Preparatory Survey on the Project for Avalanche Protection on Bishkek-Osh Road in the Kyrgyz Republic (the Project) had confirmed the items described in the attached Technical Notes prearranged by a representative of the Ministry of Transport and Communications, Kyrgyz Republic (MOTC), which is the organization responsible for implementing the Project, with the representatives of the concerned ministries as witnesses. Based on the Technical Notes, the Survey Team plans to conduct the Basic Design of the Project, including project cost estimation, through the analysis of site survey findings after obtaining approval of the Japan International Cooperation Agency (JICA).

The results of analysis and the basic design are planned to be presented and discussed with JICA and MOTC in December 2014.

Bishkek City, Kyrgyz Republic
September 16, 2014



YUZO MIZOTA
Chief Consultant
JICA Survey Team



UEZBAEV U.K.
Deputy Minister
Ministry of Transport and Communications
Kyrgyz Republic



MAMAEV KUBANYCHBEK
Director, IPIG
Ministry of Transport and Communications
Kyrgyz Republic

UNDERTAKING OF THE MINISTRY OF TRANSPORT AND COMMUNICATIONS

The work items to be undertaken by the Ministry of Transport and Communications (MOTC) are the following:

- Electric power supply for the Project
- Emergency power generator for the Project
- Relocation of communication cables before the start of the Project
- Land acquisition before the start of the Project
- Management and control of diversion road during winter
- Social Environmental Considerations

The required cost for some specific work items are summarized in the table below, together with the schedule of budgeting and implementation of the works. The total expenditures is estimated at around 22 million som, which is equivalent to around 420 thousand USD. Cost is subject to the basic design

Work Item	Cost Som (USD)	E/N	Period for Budgeting by MOTC	Period for Implementation
Electric Power Supply	20,000,000	March 2015	April 2015 to December 2017	April 2018 to June 2018
	(385,000)			
Emergency Generator	1,040,000	ditto	ditto	ditto
	(20,000)			
Relocation of Communication Cable	780,000	ditto	April 2015 to August 2015	September 2015 to October 2015
	(15,000)			
Compensation of Archa	35,000	ditto	ditto	ditto
	(700)			
Total	21,855,000			
	(420,700)			

Exchange rate: 1 USD = 52 Som

E/N: Exchange of Note between the Government of Kyrgyz Republic and the Government of Japan

1. Electric Power Supply for the Project

MOTC shall provide electric power supply for the lighting system of the snow-shed. Power supply shall be completed by the end of June 2018, because the test operation of electrical equipment is required from July to October 2018. The estimated cost is 20 million som, based on the current year prices. 15 kVA (220 - 240 V) power supply shall be provided by MOTC to the incoming panel which will be installed by the Contractor.

2. Emergency power generator for the Project

MOTC shall provide the emergency power generator by the end of June 2018, because the test operation of the emergency power generator is required in the later stage of construction work, from July 2018. The estimated cost is 20 thousand USD, based on the current year prices. Generator capacity shall be 60 to 65 kW.

3. Relocation of Communication Cable

Kyrgyz Telecom had installed a communication cable at the Project Site in June 2014. This communication cable shall be relocated by MOTC before the start of the Project. The cost of relocation is estimated at 780,000 som, based on the current year prices.

4. Land Acquisition Before the Start of the Project

Required sites for the Project and/or project works, such as temporary stockyard, concrete plant, asphalt plant, quarry site, disposal area and contractor's camp, shall be secured by MOTC before the start of the Project.

4.1 Temporary Stockyard

Excavated materials consisting of rock and soil shall be removed from the project site, and most of them shall be utilized for the Project. These excavated materials, which contain small amounts of waste materials such as debris of concrete, asphalt, wood and other materials, are therefore required to be stored in a temporary stockyard during the construction period of around three (3) years.

The assumed volume of excavated materials before the detailed design phase is 98,000 m³, including the waste materials of 1,000 m³. Most of the excavated materials shall be utilized for the embankment and as filling materials at the project site, while around 10,000 m³ of rock and soil shall be utilized as filling materials for the quarry site after taking the gravel materials. Around 18,000 m³ are required for the embankment of around 5.5 m in height. The waste materials of 1,000 m³ shall be dumped at the disposal area.

The temporary stockyard for excavated materials shall be secured by MOTC at the following location: Highland area beside the Equipment Yard of DEP No. 23 (DRP) located at Km 242 of Bishkek–Osh Road.

4.2 Concrete Plant Site

Land for the concrete plant shall be secured by MOTC at Km 246 of Bishkek–Osh Road.



Concrete Plant Site

4.3 Asphalt Plant Site

A new asphalt plant for the Project shall be installed within the territory of the existing asphalt plant under DEP No. 23 responsibility located at Km 3 of Toktogul–Besh Tash Road. The general view of the asphalt plant is shown below.



General View of the Asphalt Plant for the Project

4.4 Quarry Site

There are two (2) possible quarry sites: Quarry Site No. 1, which is located in the compound of the existing asphalt plant in Toktogul City and managed by MOTC, and Quarry Site No. 2, which was confirmed by the State Agency of Geology and Mineral Sources during the EIA report preparation. After the Exchange of Notes (E/N) between the Government of Kyrgyz Republic and the Government of Japan which is supposed to be concluded on March 2015, MOTC is expected to obtain all the necessary licenses for Quarry Site No. 2 from the State Agency of Geology and Mineral Sources. Contractor/consultant have a responsibility to prepare the required documents from regional administration of SAEPF and local authority before starting construction works. MOTC has a responsibility to obtain the license for quarry operation from the State Agency of Geology and Mineral Sources after collecting the required documents.

- Quarry Site No. 1 is situated next to the existing Asphalt Plant. It is equipped with a crushing machine for crushed stone production.

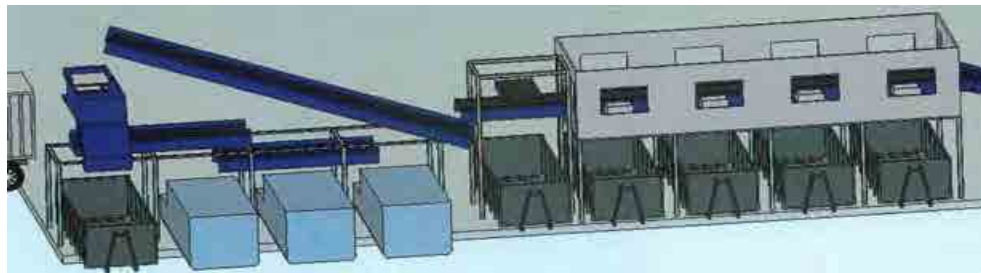


Quarry Site No. 1

- Quarry Site No. 2 is the Kayrak Quarry with an area of more than 10ha. The current quarry can provide the necessary amount of gravel materials (22,000 m³) for the Project. Due to its close location to the residential area, the quarry is to be equipped only with a sifting machine.



Quarry Site No. 2



Sample of Sifting Machine for Installation

4.5 Disposal Area

Land within the territory of the concrete plant situated near the Project site at Km 246 of Bishkek-Osh Road shall be utilized as the disposal area for waste materials after the completion of construction works. The volume of waste materials to be dumped at the disposal area is estimated at approximately 1,000 m³. Contractor/consultant need to agree and get conclusion on the disposal area from regional administration of SAEPPF.

4.6 Contractor's Camp

At least 3,000 m² of land is required for the Contractor's camp. The area shall be provided with water supply facilities. There are two lots proposed and possible for the Contractor's camp as follows:

Camp No. 1



Camp No. 2



No.	Address	Available Area	Owner
Camp No. 1	Jalalabad State, Toktogul Rayon, Toktogul City, Promyshlennaya 47	5,000m ²	DEP No. 23
Camp No. 2	Jalalabad State, Toktogul Rayon, Toktogul City, M. Ashyraliev 1	6,000m ²	DEP No. 23

5. Management and control of diversion road during winter

A “No-Construction Schedule” due to snow and subzero temperature at the project site during the winter season from November to April shall be submitted in writing by the Japanese Contractor to MOTC, together with the endorsement of the Japanese Consultant, for approval. The responsibility for maintenance works at the project site during the “No-Construction” period shall be shared between MOTC, the Japanese Consultant and the Japanese Contractor, as follows:

- (1) DEP No. 23 of MOTC shall be responsible for the management and control of the diversion road during the no-construction period.
- (2) The Consultant and the Contractor shall set up and maintain the following organizational structure during the no-construction period:
 - (a) Consultant: One (1) Japanese supervisor and one (1) interpreter (from Russian to Japanese or English, vice versa).
 - (b) Contractor: One (1) Japanese construction manager and one (1) interpreter (from Russian to Japanese or English, vice versa).
- (3) The Consultant and the Contractor shall conduct the following emergency measures at the project site:
 - (a) Site patrol and inspection of structures and facilities
 - (b) Reporting to JICA and MOTC to catch up with the original construction schedule.

6. Environmental Consideration

6.1 Compensation for Cutting of Trees

MOTC takes a responsibility of correspondence with regional administration of SAEPF and local authority on the compensation for tree cutting as shown below. With regard to the method of compensation for the 5 “archa” trees cut by newly planting 25 seedlings of “archa” as described in the Environmental Impact Assessment (EIA) Report, it is necessary for MOTC to prepare the planting program by 2014, with the agreement of SAEPF, which shows the procedure of planting and the adequate planting site near Km 246 of Bishkek–Osh Road or its vicinity. The most preferable period for “archa” tree planting is March–April or October–November. As soon as the Exchange of Notes (E/N) between the Government of Kyrgyz Republic and the Government of Japan is concluded in March 2015, MOTC shall prepare the budget for planting in April 2015 (approx. 35 000 som or 700 USD), and MOTC shall conduct the planting in April 2015 or in the period of October to November 2015. The planting condition should be monitored by MOTC and SAEPF in or after April 2016. In case that the planting is not adequate, planting should be conducted again to maintain adequate planting.

According to Government Decree No. 374, dated May 21, 2004, regarding “The Implementation of Investment Projects for Construction, Rehabilitation and Reconstruction of Roads in Kyrgyz Republic,” the Ministry of Transport and Communications of Kyrgyz Republic and contractors involved in investment projects for construction, rehabilitation and reconstruction of roads in Kyrgyz Republic under the provision of signed and ratified agreements shall be exempt from the payment of compensation of damage due to the cutting of trees and bushes in areas covered by the right-of-way of project road sections.

According to the law regarding “the prohibition of cutting, transportation, utilization, purchasing and selling of particular valuable wood species (walnut and “archa” trees)” in Kyrgyz Republic,” archa is one of valuable species. MOTC needs to decide the issue of compensation with SAEPF, if it would be paid or not. If archa tree cutting compensation would be decided by payment, then a certain amount of payment would be made. Through Government Decree No. 450 dated August 5, 2013, the rules on the issuance of permits for the cutting of particular valuable wood species (walnut and archa trees) were established. The rules are to be followed during the construction or explosive work implementation, such as the installation of cables, pipelines, transportation and other communication lines, geological survey or commercial exploitation of terrain when there is no possibility to keep the current condition of the landscape, or loss of forestry production (including denied benefit). Following the Instructions of Authorization Procedures described in Statement No. 458 of the Government of Kyrgyz Republic, dated August 13, 2013, “Confirmation of procedures for forestry land standard price determination, in case of land utilization for purposes not related to the forest management,” the authorization procedure should be as follows:

- (1) MOTC submits a request letter to SAEPF, which is the administrative office for trees in the project area.
- (2) The central office of SAEPF submits a letter to the Jalal-Abad Regional Department for evaluation of the amount of compensation.

- (3) Staff members of MOTC and Jalal-Abad Regional Department jointly visit the project site and discuss specific features of the archa trees within the site.
- (4) Based on the survey results, the extent of archa trees to be cut is evaluated. Likewise, the number of new archa trees to be planted as compensation is calculated. Usually, 15-year old archa trees (about 1 meter in height) are planted to compensate for cut trees. Average price is 800 som to 1,000 som per tree. If 25 newly planted archa trees are obligated as compensation for cutting 5 archa trees, the total expense for the purchase of 25 archa trees will be 25,000 som. Planting works to be implemented by the staff of Lesohotustroistvo (the agency responsible for forest management) is estimated to cost about 10,000 som. Overall amount of compensation to be paid is estimated at 35,000 som.

6.2 Apiary Relocation

There are two (2) apiaries at Km 246 of Bishkek–Osh Road: one is portable and the other one is stationary. The Toktogul Rayon (District) Administration Office had approved that the Jany-Djol Village Administration Office will allocate alternative lots to apiary owners, without any indemnity payment, after discussing this matter with MOTC. Apiary relocation shall begin before construction works. MOTC together with Toktogul District Administration Office should inform apiary owner about construction works and necessity of apiary relocation before starting construction works during the period of 2014-2015.



Stationary and Portable Apiaries near the Project Site

MOTC plans to designate a person to be responsible for the relocation of apiaries. As soon as the E/N is concluded in March 2015, MOTC shall also conduct the monitoring of apiary relocation and shall appoint a person to be responsible for the relocation from April 2015. The relocation of apiaries has to be completed by November of 2015.

6.3 Relocation of Avalanche Victim Monuments

MOTC conducted public hearings in Toktogul City on the 2nd of June 2014, where the issue of monument relocation was discussed with the Toktogul State Administration Office, and approved. According to the information provided by the Toktogul Administration, these monuments were installed illegally. Thus, relocation or demounting of these monuments is possible without indemnity payment. However, due to ethical and moral standards, MOTC shall reinstall the monuments after the construction work is completed.



Avalanche Victim Monuments

6.4 Final Statement on EIA Report from SAEPF

MOTC plans to submit the Final EIA Report to SAEPF in the beginning of September 2014. The EIA's approval is expected to be received in October 2014.

6.5 Appointment for the Investigation of Grievances

MOTC issues an order of establishing a group for grievance investigation. As soon as the E/N is concluded in March 2015, MOTC shall also conduct grievance investigation and shall appoint persons to be responsible for the investigation of grievances during the Project.

6.6 Public Announcement on the Monitoring Results

MOTC shall publicly announce the environmental monitoring results in a certain manner. The website or notice board of MOTC may be utilized for the information dissemination to the public.