The European Union's Tacis Programme

Pre-Feasibility & Feasibility Studies for Road Sections of the Termez – Dushanbe -Sary Tash Road

## Project No. EuropeAid/121985/C/SV/Multi

Progress Report № 1

Reporting Period: 14 Nov. 2006 – 31May 2007



This project is funded by the European Union



SOCIETE FRANCAISE D'INGENIERIE

Project Title	:	Pre-Feasibility and Feasibility Studies for Road Sections of the Termez-Dushanbe- Sary-Tash Road									
Project Number	:	110-465									
Beneficiary Country	:	Kyrgyzstan									
		Project Partner	EC Contractor								
Name	1	Ministry of Transport and Communications	BCEOM								
Address	: .	Isanova 42 Bishkek-Kyrgyzstan	Place des Freres Montqolfier 78286 GUYANCOURT Cedex- France								
Tel. number	:	+9960312 610585	+33130124800								
Fax number	1	+9960312 610585	+33130121095								
Telex number	: .		689993								
Contact person	:	Chimchikov K. A	Matthieu Loussier								
Signature	:	May	An								

**Report Cover Page** 

Date of Report: 11.06.2007

Reporting period: 15 November 2006 - 31 May 2007.

Author of report: Francois CHATAIN

	[name]	[signature]	[date]
Project Manager			
	[name]	[signature]	[date]
EKM & E team			

#### **PROJECT SYNOPSIS**

C

	roject Title : Pre-Feasibility and Feasibility Studies for Road Sections of the Termez - Dushanbe - Sary Tash Road										
Project Number	: 110-465										
Country	: Kyrgyzstan										
Project objectives:	To contribute in the development of economic relations, trade and transport communications in Central Asia through improving regional road infrastructures										
Planned outputs:	Pre-Feasibility study with various alternatives Feasibility study for bankable project Detailed design Tender documents for construction Specific studies (hydrology, structures, environmental impact, social impact, toll/transit fees, financial management) Training of local staff										
Project activities:	Regional economic analysis Traffic surveys Topographical surveys Geotechnical surveys Hydrological studies Structural studies Environmental Impact assessment Social impact assessment Maintenance studies Analysis of design options Toll/Transit fees studies Financial Management assessment Detailed design Tender documents Training										
Project starting date	: 14 November 2006										
Project duration	: 18 months										

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## 1. Summary of project progress since the start

The Project started on 14 November 2006, which is the beginning of the very difficult winter period in the Project Road area elevating from 2500 to 3200 meters. Due to continuous presence of snow, no site survey could be reasonably carried out before May 2007.

Only Long Term Experts have been mobilized in the first months till April 2007 and only partially for the Key Expert Geotechnical Engineer. Major work has been collection of existing general data and review of existing studies, especially the feasibility studies of the roads adjacent to the Project Road in Kyrgyzstan or Tajikistan. This period has been also beneficial for the training of Local Experts by the International ones, particularly for the use of models for the subsequent phases.

A seminar was organized after the Inception phase in the Ministry of Transport and Communications for its central and regional staff. It was dedicated to highway technical engineering, particularly geometrical and geotechnical design, with focus on specific conditions like in Kyrgyzstan.

Particularly to be noted was a Fact-Finding Mission from the ADB in April 2007. During that mission, it was decided to incorporate the construction of our Project road into the ADB proposed China-Kyrgyzstan-Tajikistan Regional Road Corridor Improvement Project. An ADB Project Appraisal mission will take place in the second half of July 2007 and we have been asked to provide at that moment cost estimates and preliminary economic analysis. We have accepted to submit by that date a set of Project notes with estimates.

As planned the different site surveys (topographical, geotechnical and traffic) have been subcontracted to Kyrgyzdortransproekt, which was the lowest responsive bidder. They actually started on 11 May 2007.

On 3 May 2007 a site visit was organized with Ministry of Transport and Communications to precise the final alignment of the road and the possible alternatives. The only alternatives are around the villages of Daroot Korgon and Karamyk. A meeting was also organized with a delegation of the Ministry of Transport of Tajikistan to precise the connection of the Project road at the Tajik-Kyrgyz border.

Specific technical studies could be initiated in May 2007: hydrology, slope stability and structures. International Experts have visited the Project road and are preparing their recommendations. Specific reports will be issued.

Project **«Pre-Feasibility & Feasibility Studies of the Road Sary-Tash Karamyk»** 107, Kievskaya Str., Bishkek, 720001, Kyrgyz Republic Tel.: (+996 312) 61 06 66, (+996 312) 61 13 14 E-mail: <u>bceom@netmail.kg</u>

# 2. Summary of project planning for the remainder of the project

As planned in the Inception Report, the Project Feasibility study will extend to November 2007, when the Feasibility Report will be issued.

Minor changes will occur due to the ADB Appraisal mission in the second half of July 2007. At the ADB's request preliminary estimates will be made at that moment, but the full Feasibility study with relevant reports will remain to be conducted till November 2007. An International Short Term Expert, Transport Specialist, will only reinforce our team for preparation of notes for this Appraisal mission.

The subsequent phase after Feasibility Study will remain unchanged, except that probably only one alternative will have been selected due to the early Appraisal mission. The Final Feasibility Report will incorporate Financial Management assessment, Toll/Transit fees recommendations and possible corrections.

In the same time, from December 2007 to May 2008, detailed design and production of tender documents will be carried out as planned.

## 3.Project progress in reporting period

#### 3.1. General

The Project started on 14 November 2006 with arrival in Bishkek of Team Leader Francois Chatain. A meeting was held on same day in Almaty with Project Manager Gulnara Dusupova to officially kick-off the Project.

As the Ministry of Transport and Communications of Kyrgyzstan has declared by letter that it cannot provide office accommodation, an adequate office space was rented at 107 Kievskaya Street in Bishkek from 1 December 2006.

Long Term Experts have been progressively assigned to the Project in the first months: Key Expert Senior Highway Engineer Sevdalin Berberov from 14 December 2006 and Key Expert Senior Geotechnical Engineer Stephen Robertson from 9 January 2007. Local Senior Long Term Experts have been also hired from December 2006: Transport Economist, Highway Engineer and Geotechnical Engineer.

A first mission was organized mid-December to visit the Project site. The Project road from Sary Tash to the Tajikistan border is of difficult access from Bishkek particularly in winter: airplane from Bishkek to Osh and then 4x4car through the very bad road from Osh to Sary Tash due to be reconstructed from spring 2007. No accommodation is possible in winter after Osh. The Project road elevating from 3200 m in Sary Tash to 2500 m at the Tajikistan border is almost continuously covered with snow from November to April.

So no site survey (particularly topographical and geotechnical) could be reasonably carried out before May 2007. The schedule of activities has been modified accordingly and presented in the Inception Report in February 2007.

#### 3.2. Preliminary office work

As almost no site work could be undertaken during the first months after implementation of the team, this period was devoted to office work in Bishkek starting with collection of all existing data and of all relevant existing studies.

Have been particularly examined the different studies of the road Osh – Sary Tash – Irkeshtam (Chinese border), adjacent to our Project road and the feasibility study of the continuation of our Project road in Tajikistan to Dushanbe.

This latter, financed by ADB, has been split into 3 phases. Phase 1 incorporating the section close to Dushanbe is under construction. The feasibility study of phase 2 comprising the middle section and the 12km close to the Kyrgyz border was completed and immediately available. The feasibility study of phase 3 comprising the last section was underway and an interim report could be obtained. They have provided useful information about road standards and particularly international traffic across the Tajik-Kyrgyz border almost exclusively linked to China and therefore to be identical on our Project road.

In fact it appears that future regional international traffic is probably the major driver of the feasibility of the road on both sides of the Tajik-Kyrgyz border, which currently presents on both sides a major physical bottle neck.

The economy of the Project area has been extensively studied with site mission

of the Transport Economist. It is a low populated poorly developed area, mainly devoted to traditional agriculture. Prospects of coal mining with export to China are nevertheless bright and will be significant for a large portion of the Project road.

Standard designs have been collected for future use in the Project. Unit costs have also been collected from previous studies and surveys. They will still have to be updated in order to take into account the current construction contract for the Osh-Irkeshtam road for which data were not yet available.

Of particular importance during this period was the training given to all local long term experts. They have been particularly trained to the use of the models; this will speed up the design phase when site surveys are completed and relevant data collected.

#### 3.3. Seminar

A seminar was organized early April in the Ministry of Transport and Communications to train the personnel of the Ministry, particularly those based in the regions, about highway engineering. This one day seminar was attended by 31 persons representing the Ministry Central Departments, the 7 regional Ministry's Departments of the Kyrgyz Republic and the Ministry's Road Design Institute Kyrgyzdortransproekt.

The first theme developed and presented by our Key Expert Highway Engineer was dedicated to geometrical highway design with comparison of European and American design standards.

The second theme was dedicated to the geotechnical parameters of highway design with presentation of pavement design methods and of highway maintenance standards. Particular focus was made on difficult climatic conditions like in Kyrgyzstan. This theme was presented by a Short Term Senior French Geotechnical Engineer in the absence of the Key Expert Senior Geotechnical Engineer who made only short missions during this preliminary period.

This seminar, planned in March, was finally organized early April for availability of this expert.

Extensive discussion took place after presentation of each theme.

A Project kick-off meeting was also organized mid-April with a large press and TV coverage in order to present the Project, its objectives and difficulties according to the already issued Inception report.

#### 3.4. Asian Development Bank (ADB) Fact-Finding Mission

A Fact-Finding Mission from the ADB visited the Kyrgyz Republic between 3 and 18 April 2007 to prepare a proposed China-Kyrgyzstan-Tajikistan Regional Road Corridor Improvement Project.

During this mission, the ADB has indicated his willingness to finance the rehabilitation of the road from Sary Tash to the Tajikistan border, thus incorporating the construction of our Project in the more global ADB Project. The ADB has therefore initiated internal project preparation and dialogue with the

Ministry of Transport and Communications.

The ADB will rely on our feasibility study for project preparation; however the ADB has requested additional deliverables early on from BCEOM in order to speed up project preparation, which leads us to slightly modify our schedule of activities as presented in the Inception Report.

In particular the ADB will conduct a Project Appraisal mission during the second half of July 2007 and by that time they need preliminary design options, project cost estimates, preliminary economic analysis, and initial poverty and social impact assessment.

We have accepted to submit by that date a set of Project notes on these subjects to be used by ADB for their Project Appraisal.

Due to the limited amount of financing, it was decided by the Ministry of Transport and Communications and ADB that the Project road will be designed as 4<sup>th</sup> Category Road; the section between Daroot Korgon and the Tajik border will remain as gravel road and the extent of pavement between Sary Tash and Daroot Korgon will depend on the total cost of rehabilitation of the road to match the financing capabilities. This should be made more precise during the Project Appraisal mission.

It was also made clear that no land acquisition, resettlement and relocation should be required for the design of the rehabilitated Project road, in order not to bring additional delay.

#### 3.5. Subcontracting of site surveys

In our Organization & Methodology it was planned to subcontract the different site surveys (topographical, geotechnical and traffic) to a Kyrgyz entity. Offers have been requested from Kyrgyzdortransproekt (KDTP), the road design Institute depending from the Ministry of Transport and Communications, and from two other private Kyrgyz consultants.

KDTP happens to be the lowest bidder and the most responsive due to its large experience in the Kyrgyz territory.

Negotiations have been concluded with KDTP for subcontracting to them all topographic works, soil investigations and relevant laboratory tests, and traffic counts, axle load surveys and origin-destination surveys.

All these works were planned to start early May 2007. They actually started on 11 May 2007.

It shall be noted that on 5 May 2007 heavy snow was still falling on the Project road.

#### 3.6. Site visit with Ministry of Transport and Communications

On 3 May 2007 a site visit was organized with Ministry of Transport and Communications and KDTP representatives in order to precise the final alignment of the road and the possible alternatives (See minutes in Annex). The Project road will follow the existing road as much as possible on most of its

length.

The only alternatives are around the villages of Daroot Korgon and Karamyk. In Daroot Korgon, in addition to the present alignment across the village, a more

southern alternative using two existing bridges will be also studied.

In Karamyk the present road alignment with steep curve in the village and a very light bridge is not adequate. Two shorter alternatives by-passing the village on the South will be studied.

All these alternatives would not necessitate land acquisition or resettlement.

A meeting with a delegation of the Tajikistan Ministry of Transport was organized in the border area. It appears that the Tajikistan Road Institute is just completing the final design of the last 12 kilometers in Tajik territory up to a small pass. Even if the border between Tajikistan and Kyrgyzstan is not very clear, our Project will connect to the Tajik project on this small pass. The Tajik Administration is to send shortly their completed final design to the Kyrgyz Ministry of Transport and Communications.

#### 3.7. Initiation of specific technical studies

As well as topographical and geotechnical site surveys, the specific technical studies could be initiated in May. They concern hydrology, slope stability and structures in addition to existing road geometry. Specific International Short Term Experts have been called upon as planned.

Hydrology is the first theme to be dealt with due to the very severe problems of erosion encountered by the road which follows the Kyzyl Suu River. The local Senior Hydrologist was hired since April to prepare the site mission in May with the International Senior Expert and collected all relevant information in the area. The Hydrology Report is being prepared after the site mission who took place end of May.

The International Slope Stability Expert carried out a site mission mid-May to evaluate the different measures to be taken where slope problems are encountered. His report was being finalized end of May, but will be integrated in the Geotechnical Report to be issued in August-September as planned.

The site mission of the International Structures Expert took place jointly with the International Hydrologist end of May. All bridges have been inventoried and examined. The local Structures Engineer was also hired a few weeks before to prepare the work.

A complete study of road geometry conditions was also carried out. The International and Local Highway Engineers collected data about existing geometry (vertical and horizontal alignments and cross sections), roadside facilities and infrastructures, visibility conditions and risk zones during winter period.

In order to speed up results for the ADB appraisal mission end of July, the timing of the Sociologist Experts has been advanced. So the Local Sociologist started the work of collection of data since mid-May, earlier than planned.

## TABLE 1: PROJECT PROGRESS REPORT

Project title : Pre-Feasibility and Feasibility Studies for Road Project number : 1 Sections of the Termez-Dushanbe-Sary Tash Road							10-465			Country : Kyrgyzstan						Page : 1	
	ng period : 14/11/2006 - 31/05/2007		,	Pre	epared o	n · 31/0	5/2007	-		FC Consul	tant : BCEO	м					
	t objectives: To contribute in the dev		nt of eco					port com	munications			And in case of the second s	egional road	infrastructu	res.		
easib	pility of the reconstruction of the road	Sary Ta						der docu	ments for ba	ankable proj							
No	ACTIVITIES IMPLEMENTED			TIME FF	RAME 20	06-200	7						NNEL (work				
					Months					m Foreign		rm Local	Short Ter		Short Term Local		
		Nov 2006	Dec 2006	Jan 2007	Feb 2007	Mar 2007	Apr 2007	May 2007	Planned	Utilised	Planned	Utilised	Planned	Utilised	Planned	Utilise	
1	Data collection - Analysis of existing situation	×	x	×	x	x			+	+	+	+					
2	Regional analysis-Ec. Forecasts			x	x	x	x	x	+	+	+	+					
3	Design options and standards		1	×	x	×	x	×	+	+	+	+					
4	Seminar						×		+	+	+	+		6			
5	Unit costs					×	x	×	+	+	+	+				34 Juni	
6	Traffic counts and Origin- Destination surveys							×	+	+	+	+	-				
7	Topographical surveys							×	+	+	+	+					
8	Hydrological studies						x	×	+	+	+	+	+	12	46 Senior	29 Seni	
9	Soils and materials investigation							×	+	+	+	+	+	10			
10	Preliminary structural studies							×	+	+	+	+	+	12	25 Senior	20 Seni	
12	Social impact assessment							x	+	+						14 Seni	
_							то	TAL	304	294	341	337	40	40	71 Senior	63 Sen 34 Juni	

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#### TABLE 2: RESOURCE UTILISATION REPORT

	easibility Studies for Road Sections	Project number : 110-465	Country : Kyrgyzstan	ountry : Kyrgyzstan Pa				
of the Termez - Dushanbe - Sary T			EC Consultant : BCE					
Planning period : 14/11/2006 - 31/		Prepared on : 31/05/2007						
	the development of economic relation				s.			
Feasibility of the reconstruction of	the road Sary Tash – Tajik Border to	be clarified and tender documents	for bankable project to be produced	10 T T				
INPUTS - PERSONNEL	TOTAL PLANNED	PERIOD PLANNED	PERIOD REALISED	TOTAL REALISED	AVAILABLE FOR REMAINDE			
(working days)								
LONG TERM FOREIGN								
Team Leader	350	132	132	132	218			
Highway Design Engineer	300	117	119	119	181			
Geotechnical Engineer	250	55	43	43	207			
nen 1960-1950 - Frankrik I. der is gest 🗢 , paul Prope	P251958	i envirua		careary	Start (2 year)			
Sub-total	900	304	294	294	606			
LONG TERM LOCAL								
Transport Economist	365.5	122	119	119	246.5			
Highway Design Engineer	365.5	122	121	121	240.5			
Geotechnical Engineer	344	97		97 97 24				
Coolician Engineer								
Sub-total	1075	341	337	337	738			
SHORT TERM								
	1 C	50000	2842	1945	101210			
Senior Foreign Experts	140	40	40	40	100 582			
Senior Local Experts	645	71						
Junior Local Experts	494.5	0	34	34	460.5			
Sub-total	1279.5	111	137	137	1142.5			
TOTAL	2054 5	750	769	769	2490 5			
TOTAL	3254.5	756	768	768	2486.5			

#### TABLE 3: OUTPUT PERFORMANCE REPORT

Project title : Pre-Feasibility and Feasibility Studie of the Termez – Dushanbe –Sary Tash Road	s for Road Sections Project number : 110-465	Country : Kyrgyzstan	Page : 1		
Prepared on : 31/05/2007	I	EC Consultant : BCEOM			
Output results	Deviation original plan + or - %	Reason for deviation	Comment on constraints & assumptions		
Seminar after Inception phase	+ 2 %	Organised in April for availability of personnel			

## 4. Project planning for next reporting period

#### 4.1. General

The next reporting period from June to November 2007 will be exclusively devoted to the feasibility study phase with issue of the Preliminary Feasibility Report in November 2007. Some minor changes are planned compared with the Inception Report Plan, mostly due to the requests for the ADB Appraisal mission in July 2007.

Details of inputs of Short Term Personnel, International and Local are shown in Table 4.

#### 4.2. Changes due to ADB Appraisal Mission

The major change will be for Activity 15 "Preliminary Economic Analysis of Options". In fact a preliminary analysis will be made in July for consideration by the ADB Project Appraisal mission, with issue of short notes. The complete analysis with use of complete final data and relevant model will be made in the following months and be included in the Feasibility Study Report to be issued in November. Probably only one alternative will be retained at the end of the ADB Appraisal mission.

To this end we have replaced the input of the HDM4 Specialist, as planned before, by a Transport Specialist, who will be in fact the current BCEOM Project Director. He will produce the relevant notes requested by the ADB.

As mentioned earlier, the timing of Activity 12 "Social Impact Assessment" has been advanced to produce some results end of July for the ADB Appraisal mission.

#### 4.3. Other changes

Inputs of most other Short Term Experts have not been changed except the following:

The very short intervention of the International Road Maintenance Specialist has been suppressed due to the completion of two Road Maintenance Studies financed by ADB for the Ministry of Transport and Communications. The input of a Local Road Maintenance Specialist will be sufficient to adapt current studies to our Project road.

The 5 days saved on the International Road Maintenance Specialist will be used to extend the time of the International Environment Expert and Sociologist.

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## TABLE 4: PLAN OF OPERATIONS FOR THE NEXT PERIOD (Work programme)

Project title : Pre-Feasibility and Feasibility Studies for Road Sections of the Termez - Dushanbe - Sary Tash Road							Project number : 110-465							Country : Kyrgyzstan Page : 1			
Planning period : 01/06/2007 - 30/11/2007								ared	on :	31/0	5/200	)7		EC Consultan	t : BCEOM		
Projec Feasi	ct objectives: To contribute in the develop bility of the reconstruction of the road Sar	men y Ta	t of e sh –	cono Tajik	mic r Bord	elatio er to	ns, tr be cla	ade arifie	and t d and	ransp I tend	oort c der do	omm	unica ents	tions in Central for bankable pro	Asia through improving regional roa oject to be produced.	d infrastructures.	
						Т	TIME FRAME									EL (working days)	
				1		1	2007							Long Term	Short Term Foreign	Short Term Local	
No	ACTIVITIES		INE	J	JLY		JGU SEPTE OCTO ST MBER BER						OVE				
6	Traffic counts and Origin-Destination surveys	xx	xx	xx	xx		Î				Ī			+		43 Senior Traffic Expert	
7	Topographical surveys	xx	xx	xx	xx									+			
8	Hydrological studies	xx	xx	xx	xx	xx	x							+	8 Hydrologist Engineer	14 Senior Hydrologist Engineer 43 Senior Hydraulic Engineer	
9	Soils and Materials investigations	xx	xx	xx	xx	xx	xx	xx	xx					+			
10	Preliminary Structural studies	xx	xx	xx	xx	xx								+	8 Structural/Bridge Engineer	43 Senior Bridge Engineer	
11	Environmental Impact Assessment	xx	xx	xx	xx	xx	xx							+	15 Environment Expert	64 Senior Environment Expert	
12	Social Impact Assessment	xx	xx	xx	xx	xx								+	15 Sociologist	50 Senior Sociologist	
13	Maintenance Cost estimates							xx	xx	xx	xx			+		32 Senior Road Maintenance Specialist	
14	Preliminary Design and quantity estimates	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx			+		21 Senior Cost/Quantity Engineer 193 Junior Design Technician	
15	Preliminary Economic Analysis of options			xx	xx	xx	xx	xx	xx	xx	xx			+	15 Transport Specialist		
16	Preliminary Toll / Transit fees recommendations							xx	xx	xx	xx			+	15 Customs/Toll expert	<ul><li>43 Senior Customs Expert</li><li>32 Senior Customs Facilities Expert</li></ul>	
17	Preparation of Preliminary Feasibility Study Report									xx	xx	xx	xx	+			
						-			L	1		DTAL		304 Foreign 387 Local	76 Senior Foreign Expert	385 Senior Local Expert 193 Junior Local Expert	

#### ANNEX

#### Feasibility Study of the Road Sary Tash - Karamyk - Tajik Border Minutes of Site visit on the 3rd of May 2007

A common visit on the project road was organized on 3 May 2007 between representatives of Ministry of Transport and Communications, Kyrgyzdortransproekt Institute and BCEOM:

From Ministry of transport and Communications KR:

1. Mr. K. Chimchikov - Head of Project Implementation Unit

From Kyrgyzdortransproekt Institute:

1. Mr. S. Sobor - Chief Engineer

From BCEOM:

1. Mr. F. Chatain	- Team Leader
2. Mr. S. Berberov	- Senior Highway Engineer
3. Mr. K. Diu	<ul> <li>Local Senior Geotechnical Engineer</li> </ul>

The group visited the Project Road from Sary Tash to Karamyk and to the Tajikistan border. During this visit a selection was made for the final alignment of the road and for the some of the most important technical solutions due to the Kyzyl Suu river erosion.

It was stated as follows:

- 1. The Project Road follows the existing road as much as possible.
- 2. In the Daroot Korgon area two Project alternatives have been proposed:

1) New road project following the existing alignment with reconstruction of PK

98 Bridge

2) A by-pass project avoiding the village. This project will not entail resettlement and/or land acquisition. The alignment is situated on the Northern

side of the existing road and will encompass two existing bridges in good condition.

3. A direct road link is proposed around Karamyk with also a by-pass of this village. This solution is much shorter and eliminates land acquisition and

resettlement.

- 4. The fourth category (Snip KP 32-01-2004) is recognized for the geometrical characteristics of road. It is also possible to use a flexible approach in the application of the norms so that to obtain optimal solutions from the economical point of view and to keep some of already existing road structures and elements.
- The cross-section will be 12.00m (from 7.00m total width driveway plus two 2.50m shoulders).
- 6. River erosion at PK 116, PK 119 and PK 125 will be treated according to the conclusions of the international experts based on the relevant investigations and tests. The observations and recommendations of the local road maintenance department will be also taken in consideration.
- 7. As the project necessitates the good connection at the border with the same project on the Tajik side, a meeting was organized with representatives of the Tajik administration. These latter have committed to send to Ministry of Transport of KR their final design. This project will be the basis for the definition of the connection between both project roads.

The statements mentioned above will be the basis for the road design and the site investigations.

Signatures of participants:

**K. Chimchikov** Head of project Implementation phit Ministry of Transport and Communications

S. **Sobor** Chief Engineer Kyrgyzdortransproekt

Team Leader BCEOM

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