

# Semi-annual environmental monitoring report

---

Project number: TA-8887 KGZ

Loan number: ADB Loan 3432-KGZ (SF)

Grant number: 0496-KGZ (SF)

## January-June 2023

### Kyrgyz Republic: Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing

Prepared by:

Nasiba Akhmatova, National Environmental Specialist of Roughton International Ltd. and sub-consultant RAM Engineering Associates LLC.

Prepared for:

Ministry of Transport and Communications of Kyrgyz Republic

Approved by: [Name and signature of Executive Agency staff]

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## TABLE OF CONTENTS

<b>1 INTRODUCTION.....</b>	<b>1</b>
1.1 Preamble.....	1
1.2 Key Information.....	2
<b>2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES.....</b>	<b>4</b>
<b>2.1 Project Description.....</b>	<b>4</b>
2.1.1 Project Rationale and Project Area.....	4
2.1.2 Basic Project Information.....	6
2.1.3 Scope of construction works and technical specifications.....	6
2.1.4 Summary of Identified Negative Impacts of Project Implementation.....	8
<b>2.2 Project Contracts and Management.....</b>	<b>8</b>
<b>2.2.1 Project Management.....</b>	<b>8</b>
<b>2.2.2 Management of Social and Environmental Aspects.....</b>	<b>9</b>
<b>2.2.3 Construction-Supervision Consultant’s Team.....</b>	<b>10</b>
2.3 Project Activities During Current Reporting Period.....	12
2.3.1 Road construction works.....	12
2.3.2 Additional Works.....	19
3.1 General Description of Environmental Safeguard Activities.....	25
<b>3.3 Non-Compliances Tracking (Based on Non-Compliance Notices).....</b>	<b>40</b>
<b>3.4 Trends.....</b>	<b>42</b>
<b>3.5 Unanticipated Environmental Impacts or Risks.....</b>	<b>42</b>
<b>4. RESULTS OF ENVIRONMENTAL MONITORING.....</b>	<b>43</b>
4.1. Overview of Monitoring Conducted during Current Period.....	43
4.2. Trends.....	55
<b>4.3. Summary of Monitoring Outcomes.....</b>	<b>55</b>
4.4 Material Resources Utilization.....	55
4.4.1 Current period.....	55
4.4.2 Cumulative Resource Utilization.....	57
<b>4.5 Waste management.....</b>	<b>58</b>
4.5.1 Current period.....	62
4.5.2 Cumulative Waste Generation.....	62
4.6 Health and safety.....	62
4.6.1 Public health and safety.....	62
4.6.2 Health and safety of workers.....	62
<b>5. FUNCTIONING OF THE SEMP.....</b>	<b>64</b>
5.1 SEMP Review.....	64
<b>6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT.....</b>	<b>64</b>
6.1 Good Practices.....	64
6.2 Opportunities for Improvement.....	66

---

7. SUMMARY AND RECOMMENDATIONS. ....	67
7.1 Summary. ....	67
7.2 Recommendations. ....	67

**List of Tables:**

Table 1	Basic Project Information	6
Table 2	Scope of Construction Works.	7
Table 3	Technical Specifications.	7
Table 4	Functions, Roles, and Responsibilities of Entities involved in Project Management.	9
Table 5	Contact Information of Persons responsible of Social and Environmental Management	10
Table 6	List of Consultant's Staff.	12
Table 7	Contractor's Personnel.	25
Table 8	Dates of project site inspections.	27
Table 9	Contractor's activities to correct SSEMP non-compliances.	41
Table 10	Sensitive receptors at Project Sites.	43
Table 11	Results of air instrumental monitoring.	45
Table 12	Results of laboratory tests of surface water quality.	51
Table 13	Water Source Intake Points Lot-1 and Lot-2.	56
Table 14	Characteristics of Quarries.	56
Table 15	Contractor's Construction Materials Utilization.	57
Table 16	Characteristics of unusable soil dump sites.	59
Table 17	Characteristics of old scarified asphalt dump sites	60

**List of Figures:**

Рисунок 1	Project Location.	1
Рисунок 2	Topographical Map of Areas Traversed by Lot 1.	5
Рисунок 3	Topographical map of Areas Traversed by Lot 2	5
Рисунок 4	Organizational Structure of the Construction Supervision Consultant.	11
Рисунок 5	Location of Lot 1 Contractor's Campsite and Facility Areas.	20
Рисунок 6	Map of Contractor's Camp and Production Site Lot 2.	23

---

## Abbreviations

ACP	-	Asphalt Concrete Plant
ADB	-	Asian Development Bank
CAREC	-	Central Asian Regional Economic Cooperation
CBT	-	Concrete Batching Plant
CO	-	Carbon Monoxide
CSC	-	Construction Supervision Consultant
DDPSSSES	-	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health
dia.	-	diameter
EA	-	Executing Agency
EMP	-	Environmental Management Plan
ES	-	Environment Specialist
EPS	-	Environmental Protection Specialist
IA	-	Implementing Agency
IBAT	-	Integrated Biodiversity Assessment Tool
IEE	-	Initial Environmental Examination
IES	-	International Environment Specialist
GC	-	General Contractor
GoKRG	-	Government of Kyrgyzstan
KGZ	-	Kyrgyzstan
km	-	kilometer
KR	-	Kyrgyz Republic
LARP	-	Land Acquisition and Resettlement Plan
LS	-	Left side
lm	-	Linear meter
m	-	Meter
m <sup>2</sup>	-	Square meter
m <sup>3</sup>	-	Cubic meter
masl	-	Meter above sea level
MPC	-	Maximum Permissible Concentration
MPL	-	Maximum Permissible Level
MTOC	-	Ministry of Transport and Communication of KR
MEoC KR	-	Ministry of Economy and Commerce of the Kyrgyz Republic
MNRETS	-	Ministry of Natural Resources, Environment and Technical Supervision
MoCIT KR	-	Ministry of Culture, Information and Tourism of Kyrgyz Republic
MoF KR	-	Ministry of Finance of the Kyrgyz Republic
NES	-	National Environmental Specialist
NRS	-	National Resettlement Specialist
NO <sub>2</sub>	-	Nitrite
pcs	-	pieces
PIU	-	Project Implementation Unit
RS	-	Right side
SCEC	-	State Committee on Ecology and Climate
SCP	-	Stone Crushing Plant
SF	-	Supplemental Financing
SAEMR	-	Semi-annual Environmental Monitoring Report
SDRS		Social Development and Resettlement Specialist
SAEPF	-	State Agency on Environmental Protection and Forestry Agency
SSEMP	-	Site Specific Environment Management Plan
TA	-	Technical Assistance
TOR	-	Terms of Reference
CHHS		Cultural And Historical Heritage Sites

# 1 INTRODUCTION.

## 1.1 Preamble.

1. Government of Kyrgyz Republic (GoKRG) entered into supplemental loan and grant agreements with Asian Development Bank (ADB) for identification, design, implementation, and construction-supervision of CAREC Corridors 1 and 3 Connectivity Improvement Project Phase 2 (The Project). The Project is part of North-South Alternate Corridor which is a priority project in Sustainable Development Strategy of GoKRG.

2. Project involves rehabilitation of two road sections: Balykchy section from km 0 to km 43 and Kochkor – Epkin section from km 62+400 to km 89+500. For bidding and construction purposes, Balykchy section is referred to as Lot 1 and Kochkor-Epkin section is referred to as Lot 2. A location map of Project is shown in Figure 1.

3. Project is aimed at improving the socio-economic conditions of Kyrgyz Republic regions through: (i) shortened travel time for movement of people and goods between southern districts of Osh, Batken and Jalalabad and northern districts of Naryn, Issyk-Kul, Chui and Talas; (ii) reduced transport costs due to reduced route and better road conditions; (iii) increased local and international traffic and trade particularly between Kyrgyzstan and Tajikistan; (iv) increased income-generating opportunities for local people; (v) creation of new jobs; (vi) good condition of vehicles; and (vii) reduced transportation costs.

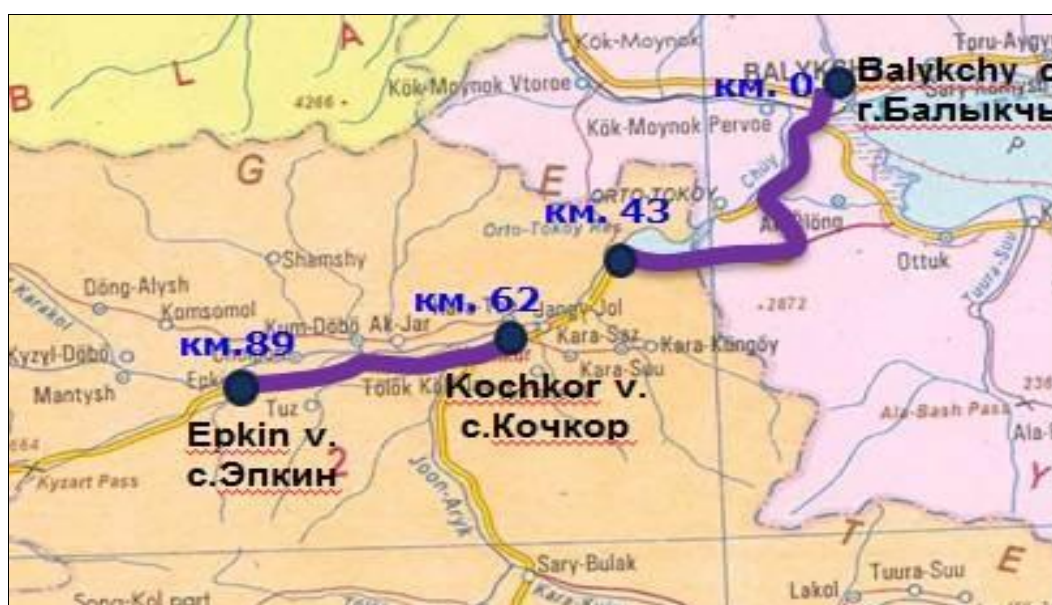


Figure 1. Project Location.

4. Project is classified as environmental “Category B” based on ADB Safeguard Policy Statement 2009 (SPS 2009). Accordingly, an Initial Environmental Examination (IEE) report<sup>1</sup> that include an Environmental Management Plan (EMP) was prepared separately for the two road sections by Ministry of Transport and Communication (MOTC) through an international consulting team. Each IEE contains the recommended environmental management measures and monitoring programs. These aim to ensure that the identified negative environmental and social impacts associated with Project implementation will be avoided or at least minimized to acceptable levels. As recommended in the IEE-EMP, the civil works Contractor prepared a Site-Specific Environmental Management

<sup>1</sup> [https://www.adb.org/sites/default/files/linked-documents/41444-024-ieeab\\_1.pdf](https://www.adb.org/sites/default/files/linked-documents/41444-024-ieeab_1.pdf)

Plan (SSEMP) for each road lot. SSEMP specified how Contractor would ensure compliance with SPS 2009, the IEE-EMP, and applicable laws and regulations of GoKRG. Construction Supervision Consultant (CSC) monitors Contractor's implementation of SSEMP and thus, its compliance with IEE-EMP. Monthly, quarterly, and semi-annual reports are prepared by CSC's environmental specialists and submitted to PIU. Semi-annual report is submitted by PIU to ADB for uploading into ADB website for public disclosure, in line with SPS 2009.

5. This is seventh "semi-annual" environmental monitoring report from January to June 2023, for CAREC Corridors 1 and 3 Connector Road Project. Additional financing for Lot 1 "Balykchy km. 0 - km. 43", Lot 2 "Kochkor-Epkin (km. 64 - km. 89)". Report describes environmental aspects, mitigation and monitoring measures undertaken by Contractor Sinohydro-Powerchina Roadbridge JV and reviewed by construction supervision consultant Roughton International Ltd. and subconsultant RAM Engineering Associates LLC».

6. Report contains materials of conducted works from Contractor and Construction Supervision Consultant. Based on monitoring, inspections from January to June 2023 by National Environmental Specialist and information received from Contractor.

## **1.2 Key Information.**

7. Planting. There are trees on both sides of project road. According to IEE the estimated number of trees for forced cutting is 68 (Lot 1 - 38 trees and Lot 2 - 30 trees), but their exact number was determined after surveying and setting out the design coordinates onto project section.

8. In 2020, when pegging and setting out design coordinates onsite, identified 1,909 pieces for "forced" cutting, of which: 160 pcs. in Lot 1 and 1749 pcs. in Lot 2. To minimize impacts on green vegetation, a joint control point analysis was conducted by Consultant and Contractor. This reduced the number of trees cut down, preserving 45 trees. Contractor completed tree cutting in 2020. Contractor obtained all necessary permits for cutting. Prior to cutting down trees, the commission conducted a survey of green plantations and obtained all necessary permits from territorial bodies of Environmental Protection Agency: Permit for tree removal No. 000 461 dated November 3, 2020 from Naryn Territorial Department of State Agency for Environmental Protection and Forestry under GoKR. Act of survey of green plantations under GoKR Balykchy No. 006603 dated November 16, 2020, Permit for tree removal from Issyk-Kul Territorial Department of State Agency for Environmental Protection and Forestry under GoKR. Total number of cut trees - 1,704; 122 trees along Lot 1 and 1,582 trees along Lot 2 Contractor needs to plant new saplings at a ratio of 1:2 (two saplings for each tree cut down).

9. Significant result of report period is the planting of 1,150 seedlings, of which:

for Lot 1 - 240 pieces of weeping willow saplings.

for Lot 2 - 910 pieces of saplings, including: birch - 250 pieces, weeping willow - 200 pieces, poplar - 450 pieces, Tien Shan spruce - 10 pcs.



Photo 1. Lot 2. Seedlings for planting



Photo 2. Lot 2. Saplings planting near Kok-Zhar v. stadium



Photo 3. Lot 2. Planting of saplings at Kok-Jar v. Sports complex.



Photo 4. Lot 1. Planting of saplings along project road km 9 + 350

10. Environmental instrumental monitoring plan is not being timely implemented: measurements of noise and vibration levels; measurements of air quality for inorganic dust, NO<sub>2</sub>, CO, SO<sub>2</sub>; laboratory tests of water quality for transparency, oil products, BOD, suspended solids. Delays and postponing the monitoring dates during reporting period are associated with laboratory accreditation and equipment verification abroad.

11. ADB International and national environmentalists conducted two-day workshop on environmental safeguards for Consultant and Contractor staff on May 25-26, 2023.

12. As explained in previous SAEMRs, for Lot 1 and Lot 2, all preparatory activities that are relevant to environmental management were completed by Contractor between 2020 and 2021. These include:

- preparation of SSEMP, Health and Safety Plan, and Covid-19 Prevention and Mitigation Plan
- acquisition of permits or approval from the local authorities and State Environmental Protection and Forestry Agency (SEPFA) for development and use of campsites, sites for construction facilities, quarry sites, and spoils disposal sites
- entering into agreement with relevant agencies for solid waste collection, wastewater collection, and hazardous waste collection
- acquisition of temporary permit for use of the quarry sites from the State Agency for Geology of Subsoil Use №03-5/682
- construction and/or development of the campsites, field offices, asphalt plants, crushing plants, fabrication areas, machinery areas, quarries, scarified asphalt and spoils disposal sites, and auxiliary installations,
- entering into agreement with Laboratory of Chui-Bishkek Territorial Department of State Agency for Environmental Protection and Forestry under GoKRG to carry out instrumental monitoring of water and atmospheric air quality and with LLC "ProfiLab" for instrumental monitoring of vibration and noise levels in areas of high environmental sensitivity and with socially sensitive receptors along the Project alignment, and in the quarry areas.

13. No major social or environmental issues arose during reporting period. Most of non-compliances observed by CSC's Ecologists during project site visits were immediately rectified by Contractor with few non-compliances currently being rectified.

## **2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES.**

### **2.1 Project Description.**

#### **2.1.1 Project Rationale and Project Area.**

14. Kyrgyzstan is a mountainous and landlocked country, where regional trade is heavily dependent on roads which dominates Kyrgyzstan's transport system. There is no rail or water transport network while air transport is expensive and not suitable for mass transport and freight.

15. CAREC Corridors Interconnecting Road Projects 1 and 3 (Phase 2) will connect two major CAREC regional corridors by rehabilitating an existing but narrow connector road. It is part of the North-South Alternative Corridor, a priority project in the National Sustainable Development Strategy.

16. Entire road corridor lies within Northern and Inner Tien Shan Mountain ranges. Route passes through mountains and plains of Issyk-Kul region at altitudes between 700 meters and 3,500 meters above sea level (masl), crossing Chu River valley. Based on Köppen Climate Classification System (BSK), Issyk-kul region has mid-latitude steppe climate which is described as continental with cold winters and hot summers. Difference between mid-summer and mid-winter temperatures can be



extreme and areas of permafrost are notable.

Figure 2. Topographical Map of Areas Traversed by Lot 1.



17. Section 1 (Lot 1), the Balykchy Project section, is 43 km long and runs from east to south-west. It begins at a traffic circle located at the entrance to Balykchy City. Five roads converge at this point, one of which is a section of CAREC road heading south. Lot 1 follows the existing highway up to km 43. The first 29 km of the road is within Tonsky Rayon (District) of Issyk-Kul Oblast (Province) while the remaining 14 km is within Kochkor Rayon of Naryn Oblast. The road elevation at km 0 is 1,632masl while the elevation at km 43 is 1,756 masl. Throughout the road section, the elevation ranges from 1,610masl to 1,820masl. Figure 2 shows the general topography of areas traversed by Lot 1.

18. Kochkor-Epkin road section (Lot 2) is 25 km long and runs from east to west. It begins at junction of three roads (km62+400) in Kochkor town where Bishkek-Naryn-Torugart Highway serves as a detour for Kochkor town and this road section. Road follows existing highway and ends at km89+500 in Epkin. Entire road section is within Naryn Oblast and crosses only Kochkor Rayon. Kochkor is center of Kochkor Rayon of Naryn Oblast.

19. Areas surrounding the roadway are vast agricultural lands used for crop and livestock production. Kochkor has rolling and mountainous terrain which is covered with highly palatable grasses suitable for grazing. Kochkor Valley is bounded by Kyzart mountain ridges on north and Karagatty Kyzart on south. Mountainous region has a very dissected relief with high slopes. Elevation in valley ranges from 1,700masl to 2,400masl. Road elevation at km 62+400 (beginning of ot 2) is 1,845masl while the elevation at km 89+500 (end of Lot 2) is 2,080masl. Elevation along entire road section ranges from 2,400masl to 4,502masl. Figure 3 shows general topography of areas traversed by Lot 2.



Figure3. Topographical map of Areas Traversed by Lot 2

## 2.1.2 Basic Project Information.

20. Basic information concerning the Project loan, consulting services and construction contracts are summarized in Table 1.

**Table 1. Basic Project Information.**

Item	Description
Project Name	Kyrgyz Republic: CAREC Corridors 1 and 3 Connecting Road Project, Phase 2 (Additional Financing)
Funding Agency	Asian Development Bank
Project References	Project number: TA-8887 KGZ Loan number: ADB Loan 3432-KGZ (SF) Grant number: 0496-KGZ (SF)
Executing Agency (EA)	Ministry of Transportation and Communication (MOTC)
Implementing Unit	Project Implementation Unit (PIU) under MOTC
Construction Supervision Consultant (CSC)	Roughton International Ltd., and RAM Engineering Associates LLC
Date of CSC contract	14/02/2017
Notification for CSC's work commencement	20/05/2020
Civil Works Contractor	Sinohydro-Powerchina Roadbridge JV
Approved subcontractors	<ul style="list-style-type: none"> <li>• Arek Story LLC</li> <li>• Balkchi Trans LLC</li> <li>• Shera Trans LLC.</li> <li>• Jungalsuukurulush Open Joint Stock Company</li> </ul> In 2021 Shera Trans was replaced by Kyrgyzgidrospectroy LLC as a consortium partner with Zhagalmay
Road Sections covered by Contract	Total length of two road sections - 68 km
Lot 1	Balykchy - 43 km
Lot 2	Kochkor – Epkin - 25 km
Notice to commence works	22/06/2020
Completion date (original)	22/06/2022
Completion date (Revised)	21 June 2023
Time to finish – days	730 days
Extension - days	First extension (delay due to COVID-19) 365 days
Warranty period - days	36 months
Contract Amount	
Lot 1	USD 22,671,896.26
Lot 2	US\$ 17,537,958.57

## 2.1.3 Scope of construction works and technical specifications.

21. Project was designed in accordance with Kyrgyz Highway Standard (SNIP 32-01:2004), with geometrical and structural requirements up to Technical Category II (main streets of city importance). Lane width 3.5m – 3.75m; width of carriageway 7.00m – 7.50 m; width of shoulder 3.25m – 3.75m (of which 0.50m - 0.75m will be paved). Average total road width is 15m. Road rehabilitation includes repair or replacement of existing small bridges and culverts, construction of side drains and other drainage facilities, construction of retaining walls for river protection where needed, provision of road signs and road markings, and construction of bus stops and one underground crosswalk. Scope of works is summarized in Table 3 while the technical specifications are summarized in Table 4.

**Table 2. Scope of Construction Works.**

Work Item	Unit	Quantity (Original Plan)	
		Lot 1	Lot 2
Tree cutting	pcs	696	239*
Clearing and Grubbing	ha	37	35
Excavation	m3	116 485	42 823
Existing Asphalt Break Up	km	38 597	10 833
Fill and Embankment	m3	205 306	93 725
Culverts	set	63	51
Subgrade	m3	154 700	90 010
Subbase	m3	220 850	125 000
Base	m3	91 079	61 750
Binder	m3	37 883	25 750
Bridges	set	4	1
Gabions	pcs	696	-
Drainage	m	1 569	139
Parking near markets	Pcs	4	2
Automobile pavilion	pcs	8	11
Parapet fence	pcs	1 339	946
Reconstruction of communication lines			
• Overhead line -10kV	poles	8	22
• Overhead line - 0.4 kV	poles	-	7
• Communication line	poles	14	-
• Lighting poles	pcs	193	337
• PVC pipes	l.m.	848	820
Others		Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities

\* Note: Increased to 1704 trees based on actual survey

**Table 3. Technical Specifications.**

Item	Specification	Remarks
Number of traffic lane	2	
Traffic lane width	3.5m to 3.75m	
Width of carriageway	2 x 7.5m	
Shoulder width	3.25m to 3.75m	Of which, 0.5m to 0.75m should have covering
Total width of carriageway	15m	
Design axle load	11.5 tons	
Width of the road right-of-way	30m to 60m	
Road Pavement		
• Top pavement (SMA) layer	6 cm thickness; vol. 42,505 m <sup>3</sup>	
• Coarse-grained asphalt at junctions	5 cm thickness vol. 682 m <sup>3</sup>	
• Leveling layer	9 cm thickness; vol. 63,633 m <sup>3</sup>	
• Base course	20cm thickness; vol. 152,829 m <sup>3</sup>	
• Sub-base course	25cm thickness; vol. 345,850 m <sup>3</sup>	
• Asphalt concrete mixture on sidewalks	4cm thickness; vol. 434 m <sup>3</sup>	

## **2.1.4 Summary of Identified Negative Impacts of Project Implementation.**

22. Based on IEE reports for Lot 1 and Lot 2, majority of negative environmental impacts arising from project implementation will occur during construction phase, but some impacts will occur during operation phase.

23. Identified potential negative impacts during Project construction phase include:

- noise and vibration
- generation of dust and air emissions from earthworks and from the operation of vehicles, construction equipment, concrete batching plants, asphalt batching plants and rock crushing plants
- impacts on water courses (siltation, deterioration of water quality)
- impacts of quarrying (removal of vegetation, changes in landscape, soil erosion/landslide, degradation of soil quality)
- impacts on soil due to removal of trees and vegetation
- Impacts resulting from rehabilitation of bridges and drainage structures,
- Impacts from operation of campsites, and
- Impacts on historical and archaeological sites

24. Identified negative impacts during Project operation phase include:

- increase in gas emissions
- increase in noise levels
- increase in traffic accidents involving pedestrians and vehicles, and
- increased risk of accidents associated with possible spills of harmful substances attributable to increased traffic and high vehicle speeds due to good road surface.

25. Satisfactory management of noise, airborne pollutant emissions, and vibration are of particular importance to communities near the road and in places where sensitive receptors such as schools, hospitals, mosques, etc. are located.

## **2.2 Project Contracts and Management.**

### **2.2.1 Project Management.**

26. The Borrower and Project Executing Agency (EA) for Kyrgyz Republic is Ministry of Transport and Communication (MOTC). Project Implementation Unit (PIU) under MOTC is implementing agency directly responsible for overseeing execution of contracts, financial management, and for ensuring compliance with loan conditions. PIU is supported by Construction-Supervision Consultant (CSC), Roughton International Ltd., and Sub-consultants RAM Engineering LLC. CSC supervises civil works to ensure quality and progress of works in accordance with construction contracts. CSC is also responsible for ensuring Project's compliance with ADB's social and environmental safeguards. Construction of project roads is being undertaken by Joint Venture Sinohydro Corporation Ltd – Power China Road Bridge Group Co. Ltd. (Sinohydro-Powerchina Roadbridge JV) which was awarded the contracts for both Lot 1 and Lot 2. Sinohydro-Powerchina Roadbridge JV, General Contractor (GC) is supported by local subcontractors approved by PIU (Arek Stroy LLC).

27. Other agencies involved in Project include Ministry of Finance (MOF), State Committee on Ecology and Climate (SCEC), Ministry of Natural Resources, Environment and Technical Supervision (MNRETS), and Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of Ministry of Healthcare (DDPSSSES).

28. Functions, roles, and/or responsibilities of entities involved in Project management are summarized in Table 4. Table 5 lists names and contact numbers of persons involved in social and environmental safeguards implementation.

**Table 4. Functions, Roles, and Responsibilities of Entities involved in Project Management.**

Agency/Entity	Function/Roles/Responsibilities
Asian Development Bank	Lending institution. Provides financing for Project and ensures Project implementation follows ADB project cycle. Provides project management support to MOTC and PIU. Monitors Project implementation through regular missions. Provides workshops and seminars for staff of EA, PIU, CSC and Contractor on project management, procurement, contracting of consulting services, disbursement, accounting, and financial management, and on social and environmental safeguards.
Ministry of Finance of the Kyrgyz Republic	Authorized state body responsible for coordination with ADB and other donors regarding external assistance issues.
Ministry of Transport and Communication of KR	Responsible for development of transport sector and is EA for project. MOTC has overall responsibility for planning, design, implementing and monitoring of project. PIU operates under MOTC and performs tasks assigned from MOTC.
Project Implementation Unit	Implementing agency directly responsible for supervising contracts implementation, financial management, and for ensuring compliance with loan conditions, including social and environmental safeguard requirements.
Ministry of Natural Resources, Environment and Technical Supervision	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: <ul style="list-style-type: none"> <li>- development of environmental policy and implementation;</li> <li>- carrying out state environmental expertise;</li> <li>- issuing environmental licenses;</li> <li>- environmental monitoring;</li> </ul> supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in natural environment;
Ministry of Natural Resources, Environment and Technical Supervision	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: <ul style="list-style-type: none"> <li>- development of environmental policy and implementation;</li> <li>- carrying out state environmental expertise;</li> <li>- issuing environmental licenses;</li> <li>- environmental monitoring;</li> <li>- supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in the natural environment;</li> </ul>
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health	Supervises sanitary and epidemiological well-being of population, safety of goods, products, environmental facilities and conditions, prevention of harmful impact of environmental factors on human health
Construction Supervision Consultant	Supervises construction works to ensure quality and progress of works in accordance with construction contracts. CSC is also responsible for ensuring Contractor's compliance with ADB's social and environmental safeguards.
General Contractor	Responsible for execution of construction works and all works covered by construction contract in accordance with technical specifications. Also responsible for implementation of ADB social and environmental safeguards as specified in contract agreement with IA.
Subcontractors	Execution of construction works covered by sub-consultancy agreement with GC in accordance with technical specifications. Subcontractors are also responsible for implementation of ADB social and environmental safeguards in same manner as GC

### 2.2.2 Management of Social and Environmental Aspects.

29. ADB has designated a Country Environmental Focal Person and a team of resident social and environmental specialists to monitor Project compliance with ADB's social and environmental safeguards. ADB team conducts site visit missions from regularly during Project implementation to check social and environmental conditions. They also provide trainings to staffs of EA, IA, and CSC on environmental, health and safety aspects.

30. MOTC has designated an officer to take charge of matters relating to social and environment aspects of Project.

31. CSC has in its team an International Social Development and Resettlement Specialist (SDRS), International Environment Specialist (IES), National Environmental Specialist (NES), National Resettlement Specialist (NRS), and National Archeologist. SDRS is responsible for monitoring and reporting on progress of resettlement activities and status of compliance with social safeguards. IES and NES are responsible for preparing SAEMR reports regarding Contractor's compliance with the environmental safeguards reflected in IEE-EMP and SSEMP. They also provide guidance to environmental staff of Contractor on rectification of environmental non-compliance issues. Contractor has designated a national Environmental Protection Specialist (EPS) who is mainly responsible for implementation of Contractor's SSEMP commitments. Contractor's EPS is also responsible to supervise instrumental monitoring of noise, vibration, water quality, and air quality which Contractor has sub-constructed to an accredited laboratory.

32. Table 5 lists names and contact information responsible of project's social and environmental management.

**Table 5. Contact Information of Persons responsible of Social and Environmental Management.**

No	Organization	Designation	Name	Contact information
1	ADB	Country Environment Focal	Ninette R. Pajarillaga	<a href="mailto:npajarillaga@adb.org">npajarillaga@adb.org</a>
2	ADB Resident Mission in Kyrgyz Republic	National Environmental Consultant	Sultan Bakirov	<a href="mailto:Sbakirov.consultant@adb.org">Sbakirov.consultant@adb.org</a>
3	PUI under MOTC	Implementing Agency Representative	Abdygulov Asylbek	<a href="mailto:asylbeka@piumotc.kg">asylbeka@piumotc.kg</a>
4	Roughton International Ltd., and sub-consultant RAM Engineering Associates LLC.	International Environmental Specialist	Elsie B. Monsanto	<a href="mailto:icbmonsanto@yahoo.com">icbmonsanto@yahoo.com</a>
		Local Environmental Protection Specialist	Akmatova Nasiba	<a href="mailto:nasibamn@hotmail.com">nasibamn@hotmail.com</a>
5	Sinohydro-Powerchina Roadbridge JV.	Contractor's Local Environmental Protection Specialist	Beisheev Isake	<a href="mailto:isake.beysheev@bk.ru">isake.beysheev@bk.ru</a>

### 2.2.3 Construction-Supervision Consultant's Team.

33. Roughton International, Ltd. and Sub-consultants RAM Engineering LLC, as construction supervision consultant are mainly responsible for ensuring Main Contractor and its subconsultants are carrying out works in accordance with contract conditions and technical specifications. CSC is also responsible for ensuring Project's compliance with ADB's social and environmental safeguards. CSC's organizational structure is shown in Figure 4. List of staff as of 30 June 2023 is shown in Table 6.

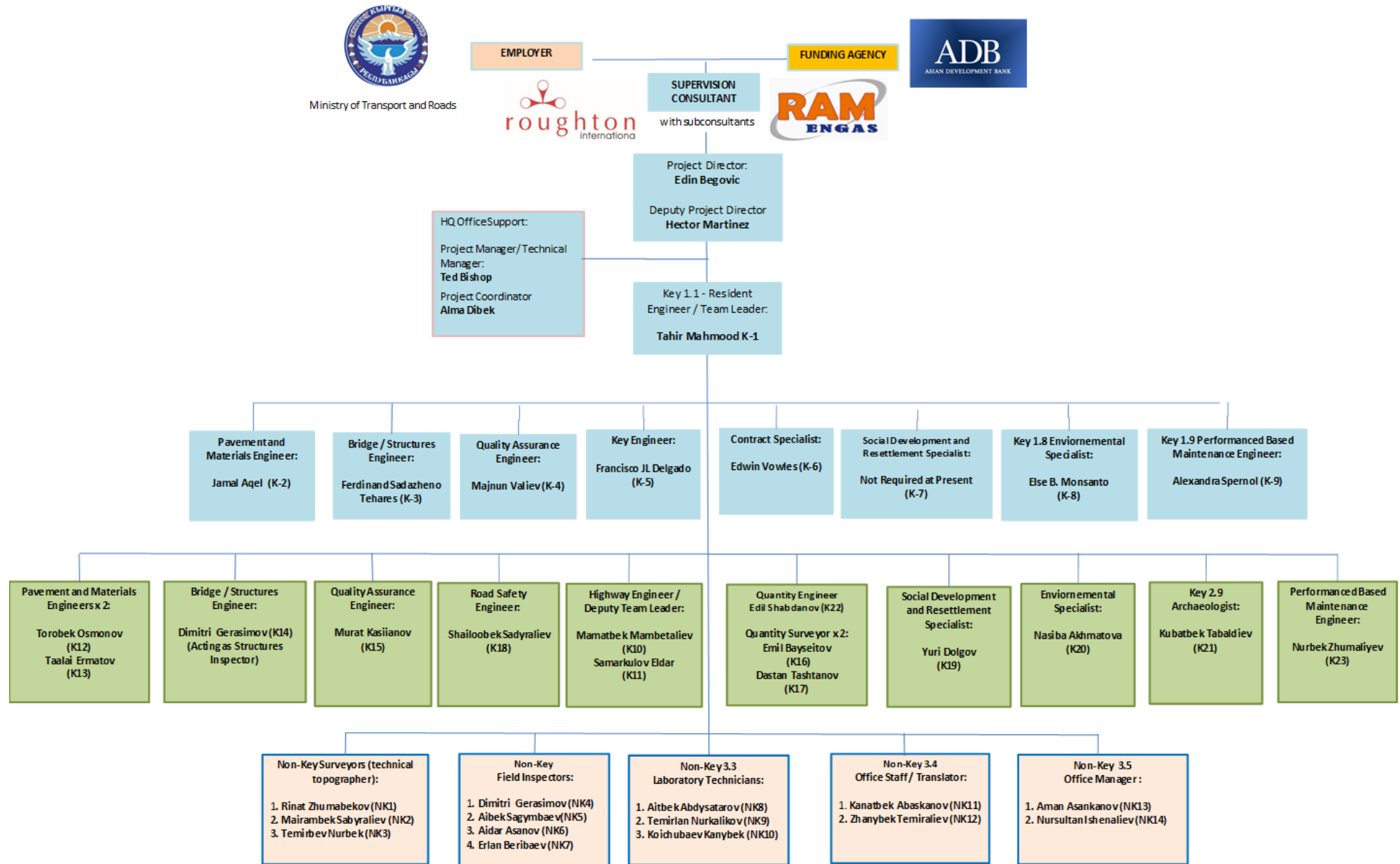


Figure 4. Organizational Structure of the Construction Supervision Consultant.

**Table 6. List of Consultant's Staff.**

<b>International staff</b>	
Project Director	Edin Begovich
Resident Engineer-Team Leader	Tahir Mahmood
Contract Specialist	Ed Vowles
Environment Specialist	Elsie Monsanto
PBM Engineer	Alexandra Spornol
Quality Assurance Engineer	Majnun Valiyev
Road Safety Engineer	Francisco Javier Lopez Delgado
Bridge/Structural Engineer	Ferdinand Tejares
<b>Local staff</b>	
Assistant Engineer -1	Mamatbek Mambetaliev
Assistant Engineer -2	Eldar Samarkulov
Pavement and Materials Engineer – 1	Torobek Osmonov*
Pavement and Materials Engineer – 2	Taalai Ermatov
Quality Engineer	Murat Kasianov
Road Safety Engineer	Shyloobek Sadyraliev
Quantity Engineer	Edil Shabdanov
Quantity Engineer – 1	Emil Bayseitov
Quantity Engineer – 2	Dastan Tashtanov
Translator – 1	Kanat Abaskanov
Translator – 2	Temiraliyev Zhanybek
Office manager – 1	Aman Asankanov
Office manager – 2	Nursultan Ishenaliev
PBM Engineer	Nurbek Zhumaliyev
Archaeologist	Kubatbek Tabaldiev
Topographer -1	Rinat Zhumabekov
Topographer – 2	Mayrambek Sabyraliev
Topographer – 3	Temirbaev Nurbek
Site Inspector – 1	Aidar Asanov
Site Inspector – 2	Sagymbaev Aibek
Site Inspector – 3	Dmitrii Gerasimov
Site Inspector – 4	Erlan Berdibaev
Laboratory Technician – 1	Aitbek Abdysatarov
Laboratory Technician – 2	Murat Kasyanov
Laboratory Technician – 3	Koichubaev Zhanybek
Environmental Protection Specialist	Nasiba Akhmatova
Resettlement Specialist	Yuri Dolgov

## **2.3 Project Activities During Current Reporting Period.**

### **2.3.1 Road construction works.**

34. On Lot 1, work continued on leveling, backfilling and compacting the subgrade. Removal of old asphalt was completed and work continued on asphalt construction, installation of parapets and culverts (Photos 5- 22):



- **Clearing and grubbing.** Works include 37 hectares according to original project. Scope of work performed during the reporting period was – 12,3% since project start - 95%.
- **Excavation.** Excavation amount - 38331 m3. Total work performance from project start to January 2023 - 100%.
- **Removing existing asphalt.** During reporting period, asphalt was removed from 5.6 km of project road, which is 13 % of total works. From Project start to June 2023, completion of works is 100 %.
- **Backfill and earthen embankment:** Completed work 12.4%, from project start to June 2023 – 97,8%;
- **Subgrade.** Subgrade works relate to a total road length of 42.915 km and include 399,940 m3 of subgrade material construction and compaction. During reporting period completed 9.04 %. Total completion from project start to June 2023 is 95%.
- **Subbase:** Sub-base construction of total 42.915 km includes construction & compacting 260,095 m3 of material, 39,245 m3 at shoulders and 220,850 m3 on main road. Completion in report period is 9,2%. Total work completion from project start to June 2023 is 92,6%.
- **Base.** Base course works for total length 42.915 km includes construction & compaction 92,737 m3 of base course material. Completion for reporting period 11.67%, and completion in total from project start to June 2023 is 90,4%.
- **Binder:** Project envisages laying and compacting the binder course 42.915 km of road with a total volume of 38,390 m3. Completion for this reporting period 9.25%, and total completion from project start to June 2023 – 88,1%.
- **SMA Asphalt Pavement:** Project envisages laying and compaction of asphalt on 42.915 km of road with a total volume of 25,339 m3. Completion for this reporting period 27%, and total completion from project start to June - 30%.
- **Culverts:** Project envisages construction of 63 culverts. Within reporting period, 7 pipes are completed, which is 11% of total culverts work scope. Total number of culverts installed from project start to June 2023 is 63, i.e., 100%.
- **Bridge.** Bridge construction km 12+063 is 100% complete. Project envisages construction of one bridge. Total completion from project start to end of December 2022 is 100%.



Photo 5. Lot 1. Installation of parapets km.22+850-22+970 LHS. January



Photo 6. Lot 1. Erection of gabion km.12+795 LHS. January



Photo 7. Lot 1. Assembly of installed parapets from km 14+000-15+000. February



Photo 8. Lot 1. Earth works at km. 40+800. February



Photo 9. Lot 1. Hydro-irrigation of unpaved road sections km. 41+000-43+000. February



Photo 10. Lot 1. Installation of parapets km 14+300. March



Photo 11. Earthworks: road shoulder leveling. Km. 18+500. April



Photo 12. Watering of pavement km. 19+700. 07.04.2023.



Photo 13. Asphalt paving. km 20+200. April



Photo 14. Paving SMA. LHS 15+530--15+870-km. March



Photo 15. Constructing road shoulder km. 20+500. May



Photo 16. Laying asphalt. May



Photo 17: Earth works: km.38+000-42+000. May



Photo 18. Construction of road shoulder km. 20+500. May



Photo 19. Scarifying of old asphalt. Km 39. May



Photo 20. Base paving. 42+000-42+920 LHS. June



Photo 21. Earthworks: km.42+000-43+000 June



Photo 22: SMA paving, km.25+935--26+965 RHS. June

35. Following works were carried out on Lot 2 (photo 23- 36):

- **Clearing and grubbing.** Works comprise 35 hectares according to original design. During works were not don. Total completion of works from project start to June 2023 is 98%.
- **Excavation:** It includes excavation and disposal of unusable materials derived from rock cutting and excavation. Total amount of excavation under project is 9045 m<sup>3</sup>. Completion for this reporting period was 3,6 % of total quantity. Total completion from project start to June 2023 has reached 124 %.
- **Removal of Existing Asphalt.** During reporting period, the remaining asphalt was removed from 0.6 km of project road. Total execution of works from project start to end of June 2023 is 100%.
- **Fill and embankment:** Completed works for reporting period amounted to 0.35%, from project start to end of June 2023, completion of works is 104%;
- **Subgrade:** Subgrade construction works were completed on 27.1 km of road with a total volume of 90,010 m<sup>3</sup>. Completion of works for this reporting period is 1.95%. Total completion from project start to end of June 2023 id 97,4%.
- **Subbase:** Subbase work is carried out on total length 27 km of road and includes laying and compaction of 152,626 m<sup>3</sup> of subbase material; 26,220 m<sup>3</sup> for shoulders and 126,516 m<sup>3</sup> for main road. Completion of work on main road for this reporting period was 1.55%. Total work completion from project start to end of June 2023 is 96,9%.
- **Base.** Demand for base course in accordance with original design is 62,300 m<sup>3</sup>. Completion for this reporting period is 14.69%. Total implementation from project start to end of June 2023 is 94,6%.

- **Binder:** Laying and compaction of asphalt binder and asphalt wearing course on road with a total length of 27.1 km and a volume of 62,300 m<sup>3</sup>. Completion of works for this reporting period is 14.5%. Total work execution from project start to end of June 2023 is 94,1%.
- **Reinforced Concrete Pipes.** Project plans to construct 45 pipes. Construction of 2 pipes was completed during reporting period. Total number of installed pipes from project start to June 2023 are 45 pieces, i.e. 100%.
- **Culverts.** Design envisages construction of 45 pipes. Within reporting period construction of 1 pipe was completed, 2 pipes are in the process of work. Total number of installed pipes from project start to end of December was 43, i.e., 96 %.
- **Bridge:** Construction of bridges km 65+410, km68+044, km86+261 and km88+795. Total completion for reporting period is 87%. Total completion since project start to end of June 2023 on bridge km 65+410 is 87% bridges at km. 68+044 (95%), km. 86+261 and at km 88+795 - 100% complete.



Photo 23. Bridge km 65+410. Reinforcing of piers with foundation. January



Photo 24. Compaction of subbase layer (2nd layer) km 70+340-70+740 RHS. January



Photo 25. Constructing bus stop shed km 86+782 RHS. January



Photo 26. Slope cutting km 88+500-88+600 LHS. February



Photo 27. Bridge installation km. 65+360. March



Photo 28. Pouring of monolithic cross beam of the abbatment no 4. April



Photo 29. Paving the base course of ac pavement km 69+800-70+370. April



Photo 30. Paving the base course of ac pavement km 68+000. May



Photo 31: Bridge km. 65+410. Monolithic concrete, cross beam connection. May



Photo 32. Installation of parapets km.81+200. May



Photo 33. SMA Arrangement km 78+120-km 79+100 LHS. June



Photo 34. Bridge km. 65+410, installation of slabs. June



Photo 35. Scarifying old ac km.65+180-65+340. June



Photo 36. Installation of curbs. v. Kok-Jar. June.

### 2.3.2 Additional Works.

36. Aside from activities involving the major road work items, during current reporting period, Contractor carried out following activities to support his project operations and to fully comply with other contractual obligations as stipulated in contract and technical specifications.

- Provision of houses for Contractor's personnel, offices, production sites, equipment maintenance workshops, fuel depots, crushing plants, material warehouses, asphalt plants, concrete mix plants, etc. This includes provision of necessary equipment, stationery, first aid supplies, and daily accommodation for staff and workers (Photos 37-58).
- The contractor obtained permits from local authorities and state environmental protection agencies to locate the camp and production base:
- For Lot 1 from the aiyl okmotu of Kok-Moinok aiyl aimag for the allocation of plot No. 368 dated 09/04/2020.
- Permission from the Issyk-Kul Territorial Department of Environmental Protection No. 45-1/2020 dated 09/04/2020
- For Lot 2 from the aiyl okmotu of Cholpon aiyl aimag for the allocation of plot No. 310 dated May 27, 2020.
- Resolution of the session of deputies of the VI convocation of the Cholpon ayilny Kenesh No. 35/4 dated 06/12/2020 on the allocation of a site for temporary use for a camp and a production base.
- Permission from the Naryn Territorial Department for Environmental Protection No. 45 dated 08/17/2020 Letter No. 02-4/553 dated 08/17/2020. Refer to Figure 5 for the location maps of the contractor's camps and auxiliary installations for Lot 1, and to Figure 6 for Lot 2.
- Maintenance of project information sign boards, safety sign boards, and other safety warning devices for traffic, worker safety, and public safety (Photos 51-52)
- Continued compliance with measures related to the COVID-19 pandemic.
- Compliance with the ADB safeguard policies; the relevant laws and regulations of the Kyrgyz Republic on health, safety, and environmental protection; the IEE-EMP; and the Contractor's SSEMP (see Section 3 and Section 4).
- Monitoring of air quality (noise, vibration, air pollutants), water quality and soil quality (See Section 4.3)
- Operation and maintenance of soil and aggregate quarries (See Section 4.4)
- Operation and maintenance of spoils disposal sites (See Section 4.5)
- Keep record of complaints and grievance

### **Contractor's Campsite and Facility Area for Lot 1.**

37. Contractor's camp is located alongside of Balykchy project section km0 – km43 at km16+100 RHS in 50 m distance, acreage 4,5 ha (photo 37). All necessary documents / approval from local authorities, and coordination with government environment agencies have been obtained (Letter ayil okmotu Kok-Moinoksky aimak on allocation of sites № 368 of 09/04/2020, permission of Issyk-Kul territorial administration of Environment Protection № 45-1/2020 of 09/04/2020).

38. Camp area includes: office and living accommodations, medical unit with doctor and first aid facilities, a prayer room (namazkana), a canteen with a kitchen block, separate toilets and showers for men and women, and an open space for recreation and gatherings in center of camp. Living accommodations for national staff and workers who do not live in neighborhood have a capacity of 60 people.

39. Emergency and firefighting measures are available. Fire extinguishers and fire boards are strategically distributed outside buildings, and rooms inside buildings are equipped with automated fire extinguishing systems. Various informational materials about COVID-19 and fire safety, emergency response is placed around buildings. During reporting period sanitary condition of camp space, living and working facilities were in good condition (Photos 41-50)



Figure 5. Location of Lot 1 Contractor's Campsite and Facility Areas.



Photo 37. General view of camp Lot 1 km 16 + 100 (RS).



Photo 38. Lot 1. Contractor's accommodation camp





Photo 39. Lot 1 offices and information boards.



Photo 40. Lot 1. Prayer room "Namazkana"



Photo 41. Lot 1. Office



Photo 42. Lot 1: Seeing of medical unit by ADB Mission



Photo 43. Lot 1. Women's and men's toilets.



Photo 44. Lot 1. Women's toilet and shower room



Photo 45. Lot 1. Kitchen



Photo 46. Lot 1 canteen in camp.



Photo 47. Lot 1. Laundry



Photo 48. Lot 1. Smoking area



Photo 49. Lot 1... Fire extinguishing equipment

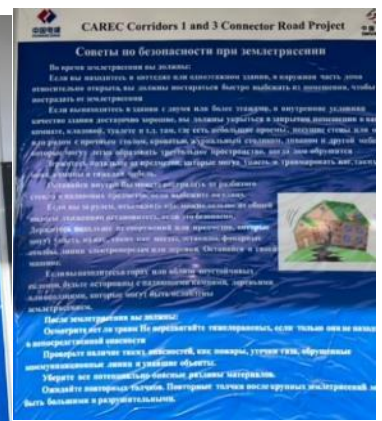
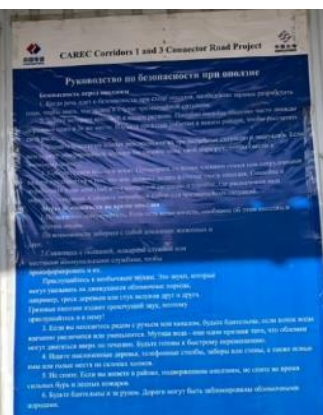


Photo 50. Information boards on first aid, emergency response (earthquakes, floods, landslides, road safety, etc.).

## Contractor's Campsite and Facility Area for Lot 2.

40. Contractor's camp Lot 2 is located km 81 stretch of Project Section 2A "Kochkor-Epkin", 250 meters away from project site, 4.5 ha in area (Figure 7). All necessary documents/approvals from local authorities and approvals from government environmental protection agencies have been received (Letter to Aiyl Okmotu of Cholpon Aiyl Aimak on allocation of land plot No. 310 dated 27.05.2020 Decision of Cholpon Aiyl Kenesh Session VI Parliament No. 35/4 dated 12.06.2020 on allocation of land for temporary use for camp and production base, Permit of Naryn Territorial Department of Environmental Protection No. 45 dated 17.08.2020 Letter No. 02-4/553 dated 17.08.2020).



*Lot 2 crusher section in front and Contractor's camp in background.*

41. Camp is fenced and landscaped with planting of trees. Within camp are located: office, medical unit with a doctor and first aid facilities, living facilities for Contractor's personnel, parking area for construction equipment, canteen with kitchen unit.

Living accommodations for international and national staff and workers not living locally have a capacity of 45 people. Each living room has a bathroom and a shower room. During reporting period sanitary condition of camp site, accommodation and workplaces were in good condition (Photos 51-54).

42. Emergency and firefighting measures are available. Fire extinguishers and fire boards are strategically placed outside and inside the buildings. Various informational materials about COVID-19, safety management organization, fire safety measures, organizational structure for emergency response, etc. are placed around the buildings.



Figure 6. Map of Contractor's Camp and Production Site Lot 2.



Photo 51. Offices and rooms for accommodation in the Contractor's camp



Photo 52. Women's and men's toilets



Photo 53. Dining room with kitchen block



Photo 54. Information boards on COVID-19, organizational structure for emergency response, electrical safety, road safety, etc.

### **Personnel information.**

43. During reporting period, total number of Main Contractor and Subcontractor personnel averaged 400, mostly locals. Main Contractor signed contracts with following subcontractors approved by Engineer:

- Arek Construction LLC (Contractor's letter dated June 20, 2020)
- Shera Trans LLC (Contractor's letter dated August 6, 2020)
- Zhumgal Suu Kurulush OOO (Contractor's letter dated 5 July 2021)

44. During reporting period, one subcontractor, Arek Stroy LLC, worked.

45. No restrictions were placed on COVID-19 during reporting period. Following is a summary of Contractor's personnel information

**Table 7. Contractor's Personnel.**

Personnel	Contractor SINOHYDRO		Subcontractor (Arek Stroy)
	Local (Lot 2)	Foreign	Lot 1
Administrative/ Engineer/ Technician	76	23	23
Operators and drivers	60		18
Skilled workers	110		19
Unskilled labor	35		23
Others	13		
<i>Subtotal</i>	162		83
<b>TOTAL</b>	<b>317</b>		<b>83</b>

### **2.4 Description of Changes in Project Design.**

46. No design changes in this reporting period.

### **2.5 Description of changes in agreed methods of construction.**

47. No changes have been made to construction methods

## **3. ENVIRONMENTAL SAFEGUARD MEASURES.**

### **3.1 General Description of Environmental Safeguard Activities.**

48. All environmental safeguard activities of Contractor are based on approved SSEMP (for Lot 1 approved in October 2020, for Lot 2 approved in November 2020). Contractor's Environmental Protection Specialist (EPS) is primarily responsible for the implementation of Contractor's environmental protection commitments as specified in SSEMP. Contractor's Project Manager provides necessary resources and management support to put all relevant plans into action. Among others, the safeguard activities of the Contractor include: (i) securing all needed environmental permits for the temporary use of some land, and for the installation and operation of the Contractor's facilities; (ii) consultations and dialogues with local communities to explain about the project activities and to resolve public grievances. The Contractor's environmentalist routinely conducts dialogues with local communities during site inspections to clarify project activities and resolve public complaints. Officially, during the reporting period, public hearings were held in May, organized by the Consultant with the participation of the Contractor; (iii) carrying out monitoring by the contractor's and consultant's environmental specialist, of the construction sites and facilities to ensure that the

conditions are in accordance with the ADB SPS 2009, IEE-EMP, SSEMP, government regulations, and best management practices; (iv) implementation of corrective actions that may be recommended by the CSC ES; (v) supervision of sampling and testing of ambient pollution indicators; (vi) implementation of social, health and safety requirements; (vii) keeping daily logs and maintaining records of all environmental activities; and (viii) preparation of environmental reports.

49. CSC ES monitors Contractor's compliance with IEE-EMP and SSEMP during construction stage through ocular site visits and audits of the Contractor's logbooks and records. Site visits are usually done together with Contractor's EPS so that instructions for correction of non-compliances can be clearly and immediately explained for prompt action. CSC-ES also participates in air and water sampling and noise and vibration monitoring.

50. Within reporting period, 1150 seedlings were planted, of which: on Lot 1 - 240 pieces of weeping willow; on Lot 2 - 910 pieces, of which birch - 250 pieces, weeping willow - 200 pieces, poplar - 450 pieces, Tien Shan spruce - 10 pieces.

Site inspections by NES were conducted jointly with Contractor's ES. When environmental problems are observed, Consultant notifies Contractor verbally or in writing to correct the violations within a specified period. Meetings and/or orientations for staff who commits violations and those responsible for EMP and SSEMP are conducted to explain the violations and suggestions for improvement.

### **3.2. Site Audits.**

51. Between July and December 2022, IEC visited project sites 30 times. SE CSC and Contractor jointly conducted visual and environmental quality monitoring. The scope of work and results of on-site inspections are summarized in Table 8. Selected photos of activities and results are shown in photos (55-111).

**Table 8. Dates of project site inspections.**

No	Date	Auditor's names	Purpose of audit	Brief information on any important audit remarks.
<b>January</b>				
1	30.01.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2.  Visual monitoring of all construction sites, waste dumps, quarries and monitoring of Contractor's environmental documentation. Monitoring of planted seedlings.	Visual monitoring of all construction sites, waste dumps, quarries and monitoring of Contractor's environmental documentation. Monitoring of planted seedlings. Recommended to use waterproof septic tank to collect water after washing Concrete Mixing Unit and concrete mixer at the Production Base of Reinforced Concrete.
2	31.01.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	During quarrying at km. 16+600 the stability of quarry sides is not ensured, i.e. the quarry side slope angle is 90° (photo 64), which may lead to collapse. Quarry sides stability is ensured at inclination angle of 70°. Contractor recommended to stabilize quarry sides at km.16+600 and ensure reclamation of sections used for temporary bypass road km. 22+000-23+000 (Photo 66).
<b>February</b>				
3	01.02.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1&2.	Visual monitoring of all construction sites, unsuitable soil dumps, and quarries. No SSEMP non-compliances were registered
4	16.02.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1&2.	Visual monitoring of all construction sites, unsuitable soil dumps, and quarries. No SSEMP non-compliances were registered
5	17.02.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	No SSEMP non-compliances were registered
6	27.02.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2.  Monitoring of planted seedlings.	Oil products contamination occurred near fuel and lubricant storage depot at production base (photo .

7	28.02.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1  Visual monitoring of all construction sites, production facilities, quarries.	No SSEMP non-compliances were registered
<b>March</b>				
8	13.03.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2.	Bitumen spillage occurred near the Reinforced Concrete Production Facility Lot 2 - which has been remedied (Photo 86, 87). Cemetery fence foundation along project road km.68 RHS and foundation of some cemetery graves fences located LHS filled with soil because of road shoulder construction works (Photos 78-81).
9	14.03.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	Visual monitoring of all construction sites, unsuitable soil dumps, quarries.
10	17.03.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	Site inspection for planting of seedlings Lot 1
11	27.03.2023	Akhmatova N.. Beisheev I.	Contractor's SSEMP monitoring Lot 2.	No remarks
12	28.03.2023	Akhmatova N.. Beisheev I.	Site inspection for planting of seedlings Lot 2	Recommended increasing the frequency of watering during hot weather.
13	29.03.2023	Akhmatova N.. Beisheev I.	Contractor's SSEMP monitoring Lot 1.	No remarks.
<b>April</b>				



14	06.04.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2 with Contractor's ecologist	Inspection of planted seedlings. Visual monitoring of all construction sites, dumping sites, quarries
15	25-26.04.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2 with Contractor's ecologist	No remarks
16	27.04.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1 with Contractor's ecologist	Visual monitoring of all construction sites,
<b>May</b>				
17	10.05..2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2.	No remarks
18	11.05.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	Frost in early May and snowfall resulted in freezing of the tops of some of seedlings.
19	12.05.2023	Akhmatova N.. Beisheev I..	Monitoring of planted seedlings Lot 2.	Frosts in early May led to freezing of the tops of some of saplings planted near Kok-Jar v. school stadium.
20	15.05.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1.	Visual inspection of all construction sites, as well as old asphalt dumps. No non-compliances with SSEMP were found.
21	16.05.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1& 2 with Contractor's ecologist	Burial under the rehabilitated road km.62+200 on Lot 2 was found (photo).
22	17.05.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2 with Contractor's ecologist	
23	18.05.2023	ADB's mission	Environmental safeguards monitoring (Photos 70-74)	Recommended to ensure complete fencing of bitumen storage area/reservoir at Ashpalt Plant and complete installation of signage at some areas of production base (Photo 75-76). Ensure instrumental monitoring of air and surface water quality (upstream and downstream of the bridge construction site) - completed, results are summarized in Section 4.1 of this report.

June				
24	05.06.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 1 with Contractor's ecologist	Visual inspection of all construction sites as well as inspection of sites for removal of old asphalt. No SSEMP non-compliances observed.
25	06.06.2023	Akhmatova N.. Beisheev I..	Contractor's SSEMP monitoring Lot 2 with Contractor's ecologist	No SSEMP non-compliances were registered
26	08.06.2023	Akhmatova N.. Beisheev I..	Inspection of planted trees Lot 1	Watering of seedlings is required.
27	09.06.2023	Akhmatova N.. Beisheev I..	Inspection of planted trees Lot 2	Recommended increasing watering frequency in hot weather and protection of planted seedlings from livestock (Photos 98, 99 and 101).
28	12.06.2023	Akhmatova N.. Beisheev I.	Contractor's SSEMP monitoring Lot 2 with Contractor's ecologist	Watering of seedlings is required.
29	13.06.2023	Akhmatova N.. Beisheev I.	Inspection of planted trees Lot 2	Recommended increasing watering frequency in hot weather and protection of planted seedlings from livestock (Photos 98, 99 and 101).
30	14.06.2023	Akhmatova N.. Beisheev I.	Inspection of planted trees Lot 1	Increased watering frequency during hot weather is required (Photos 72 and 73).

**Photos Lot 1 monitoring during the reporting period**



Photo 55. Lot 1. Sanitary condition of construction equipment parking is satisfactory. January



Photo 56. Reinforced concrete production site. Sanitary condition of territory is satisfactory. January.

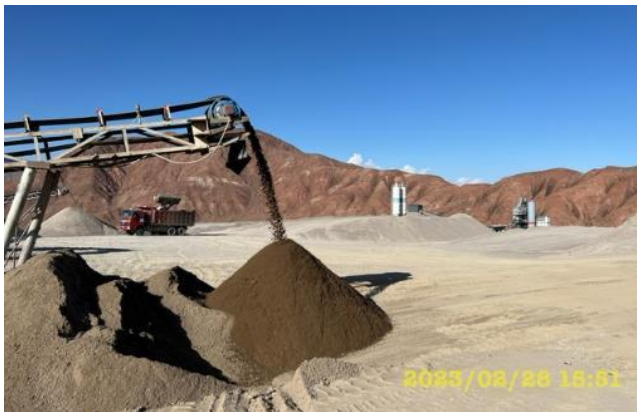


Photo 57. February. Preparation of construction materials at Crusher.



Photo 58. March. Quarry development at km. 9+000.



Photo 59. Lot 1. March. Sanitary condition of fuel station territory is satisfactory, no oil product contamination was observed.



Photo 60. April. Sanitary condition of the industrial base territory is satisfactory. no oil product pollution was observed.



Photo 61. Quarry development at km. 34+240. May



Photo 62. May. Material preparation at Crusher plant.



Photos 62 and 63. Lot 1. Quarry km 16+600. It is required to bring stability of quarry sides to a safe condition, i.e. the angle of inclination of quarry side should be equal to 70° (not more).



Photo 64. Quarry km 16+600. Work is underway to ensure stability of quarry sides.



Photo 65. Quarry sides of km.16+600 have been brought to a safe condition



Photo 66. Lot 1. Bypass road on the section km. 22+000-23+000. Subject to reclamation.



Photo 67. Bypass road at km. 22+000-23+000. Reclamation has been carried out.



Photo 68. March. Dust on the unpaved road section at km. 37+000-38+000



Photo 69. Lot 1. Hydro-irrigation of unpaved road sections at km. 37+000-38+800



Photo 70. ADB Mission. Lot 1. Km. 02+706 ("Roundabout").



Photo 71. ADB Mission. Lot 1. Production base. Crusher plant



Photo 72. Lot 1. Contractor's Camp. Kitchen Block.



Photo 73. Lot 2. ADB Mission. Production base.



Photo 74. Lot 2. ADB Mission. Production base. Crusher site



Photo 75. ADB Mission. Lot 2. Production base. AC plant.



Photo 76. Production base of AC plant. Fencing around the bitumen storage area to be completed



Photo 77. Production base of AC plant. Completion of full fencing of bitumen storage area is ensured.



Photos 78 and 79. Watering of saplings planted along the project road at km. 9+350 to km.10+460. June.

## Monitoring photos for Lot 2



Photo 80. March. Sanitary condition of the construction equipment parking area is satisfactory, no oil pollution was observed.



Photo 81. March. Sanitary condition of the territory of production base, area of reinforced concrete production is in satisfactory condition



Photo 82. Lot 2. March. Sanitary cleaning of the area along the project road at km 63+480



Photo 83. Lot 2. March. Hydro-irrigation at km 65+440



Photo 84. Lot 2. March. Cemetery km 68 RHS, foundation of cemetery fence along road is backfilled with soil as a result of roadside construction.



Photo 85. Lot 2. March. Cemetery km 68 road RHS: area along cemetery fence cleared of backfilled soil



Photo 86. Lot 2. March The cemetery km 68 road LHS not fenced and close proximity to road: as a result of roadside construction, some sections of grave fence have been filled with soil



Photo 87. Lot 2. March Cemetery km 68 road LHS: after clearing sections of grave fences from backfill soil.



Photo 88. Preparation of construction materials at Crusher. March



Photo 89. Quarry development km.75+400. May



Photo 90. Lot 2. Front of fuel storage warehouse at production base polluted with oil products and littered with garbage



Photo 91. Lot 2. Front of fuel and lubricant storage at production base after cleaning from contamination and debris.



Photo 92. Lot 2. Reinforced Concrete Production site. Bitumen spill.



Photo 93. Lot 2. Reinforced Concrete Production site. After cleaning from bitumen spills.





2023/03/17 19:10

Photo 94. Lot 2. March. Watering of seedlings. Cholpon v. territory of the State Committee.



2023/03/18 12:06

Photo 95. Lot 2. March. Watering of planted seedlings. Cholpon v., territory of Cultural Center



2023/03/29 15:06

Photo 96. Lot 2. Site preparation for planting seedlings on the site of the sports complex in the village of Kok-Jar



2023/03/28 15:31

Photo 97. Lot 2. Preparation of the site for planting seedlings in the area of the stadium in Kok-Zhar village.



Photo 98. Lot 2. Watering seedlings at the sports complex in Kok-Jar village. May.



Photo 99. Lot 2. Watering of saplings on the site of Cultural Center in Cholpon village. May



Photo 100. Hydro-irrigation of unpaved road sections at km. 69+840-71+000.



Photo 101. Dust on the dirt road section in Chekildek village.



Photo 102. Watering of saplings on the site of Cultural Center in Cholpon village.



Photo 103. Watering of saplings on the site of Cultural Center in Cholpon village.



Photos 104 and 105. Watering of seedlings planted on the school grounds in Chekildek village is required



Photo 106. Kok-Jar village. Free access of livestock to the area of planted seedlings, near the school stadium



Photo 107. Kok-Jar village, planted seedlings on the territory near the school stadium: seedlings are not properly watered.



Photo 108. Mukandyn-Suusu river bridge, km. 68+040 It is necessary to provide protective measures to prevent soil from entering the river during construction works.



Photo 109. Mukandyn-Suusu river bridge, km. 68+040 It is necessary to provide water diversion measures to prevent soil from entering the river during construction works.



Photo 110. Bypass road of the bridge at km 86+261. r. Sazdyn-Suusu,. Construction of the bridge is completed; the bridge bypass is open. The bypass road is subject to reclamation.



Photo 111. Bypass road of the bridge at km 88+795. r. Zhar-Korundu. Construction of the bridge is completed; the bridge bypass is open. The bypass road is subject to reclamation.

### 3.3 Non-Compliances Tracking (Based on Non-Compliance Notices).

52. If a non-compliance is identified during a site visit, a verbal instruction is initially given by the CSC to Contractor, clearly giving suggestions for immediate correction. CSC sends a follow up letter for issues that were not immediately corrected to formalize the instruction with a deadline date for correction. If the Contractor is unable to correct the non-compliance by the deadline date, the issue will be carried over to the next non-compliance notice. CSC gives a new deadline date if Contractor has a valid reason for delay in executing corrective action. Issues are tracked and status is included in monthly, quarterly, and semi-annual environmental reports of CSC. Similarly, Contractor tracks status of non-compliance notices issued by CSC and includes status in monthly reports submitted to CSC.

#### 3.3.1 Contractor's activities to eliminate SSEMP non-compliances.

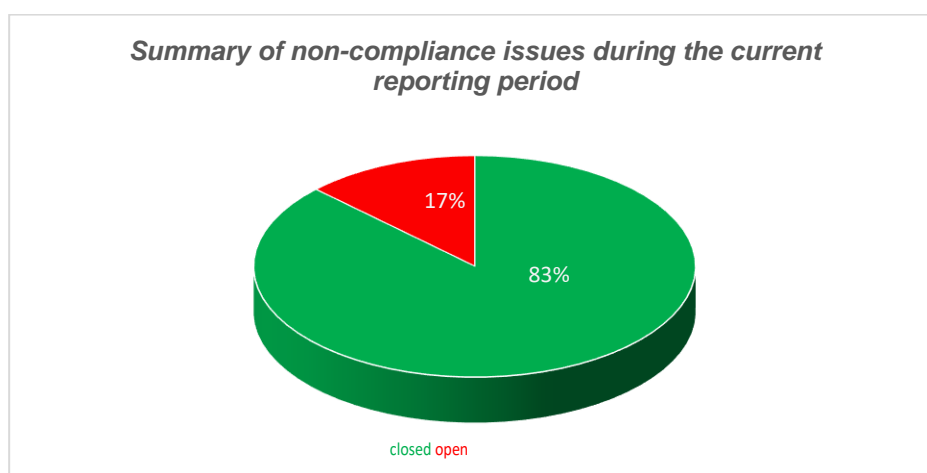
53. Table 9 lists the status of non-compliances/violations/recommendations identified during site visits from July to December 2022, including the violations specified in the CSC letter Ref. KGZ4267/02/01/JPL/333 dated 18.06.2022. In reporting period, implementation of mitigating environmental measures can be assessed as good: non-compliances occurred in terms of pollution of production base area with waste oils, as well as untimely dust suppression on unpaved road sections during passage of vehicles, which were eliminated on site. There were recommendations on need for reclamation of lands allocated for bypass roads and more frequent watering in hot weather. Information is reflected in Table 9.

**Table 9. Contractor's activities to correct SSEMP non-compliances.**

No п/п	Comments, non-compliances, recommendations	Corrective measures (CM)	Due dates	Status of previous execution of the CM/ Timeframe for elimination of non-compliances
<b>Lot - 1</b>				
1	During quarry development km.16+600 the industrial safety requirements ensuring stability of quarry sides were not observed: the angle of inclination of quarry side is 90°, which may lead to its collapse (Photos 62 and 63).	Bring the quarry sides to a stable safe condition, i.e. the angle of inclination of quarry sides should be equal to 70°.	Immediately	Done. (photos 64 and 65)
2	Bypass road km.22+000-23+000 has been discontinued (Photo 66).	Ensure reclamation of lands allocated as bypass road	By February 5, 2023.	Done. (photo 66)
	Proper watering of saplings planted along project road from km. 9+350 -10+460 (Photo 78 and 79).	Ensure watering of seedlings, increase the frequency of watering in hot weather. 3.	Ongoing.	Constant.
3	Proper watering of saplings planted along project road from km. 9+350 -10+460 (Photo 78 and 79).	Ensure watering of seedlings, increase the frequency of watering in hot weather.	Permanent.	Constant.
<b>Lot - 2</b>				
4	Cemetery fence foundation located along road km. 68 RHS and fence foundations of some graves located LHS are filled with soil as a result of roadside construction (Photos 84 and 85).	Provide soil cleanup	Due by 3/21/2023.	Done (photos 86, 87)
5	Production site. Pollution near fuel and lubricant storage (Photo 90).	Ensure cleanup	Immediately	Done (photo 91)
6	Production base. Bitumen spill near reinforced concrete production site (photo 92).	Ensure cleanup	Immediately	Done (photo 93)
7	Wastewater after washing the concrete mixing plant is discharged into a waterproof pit,	Provide a watertight tank to collect wastewater from concrete mixing plant.	By March 15, 2023.	In process.
8	Proper watering of seedlings planted on Chekildek v. and Kok-Jar v. school territory is not provided (Photo 104, 105, 107).	Provide watering of seedlings, increase frequency of watering in hot weather.	Up to June 22, 2023.	Extended to July 10, 2023.
9.	Construction of bridges km. 86+261 and 88+795 have been completed. Use of bypass road has been discontinued (Photos 110, 111).	Ensure reclamation of land allocated for bypass road	Extended to July 10, 2023.	Ongoing.
10.	No protective measures to prevent soil from flowing into Mukandyn-Suusuu River during construction works (Photo 106).	Ensure that soil does not flow into the river.	Permanent.	In process

### Summary of non-compliances based on current period notifications.

Total number of non-conformities	8
Number of closed non-conformities	7
Inconsistencies, in the process of elimination	1
Percentage of closed items	87,5 %
Non-conformities discovered during reporting period	7
Non-conformities closed during the reporting period	6
Percentage of closed items	86 %



### Summary of non-compliances for the previous reporting period.

Number of open non-conformities	-
Number of closed non-conformities	3
Inconsistencies, in the process of elimination	1
Percentage of non-conformities closed	100 %

### 3.4 Trends.

54. During reporting period 4 non-compliances were noted. 3 of them were corrected during the previous period. 1 non-compliance is in process as it should have been eliminated in this reporting period. Non-compliance is related to wastewater discharge from concrete mixing plant (Lot 2) to the relief (pit). Contractor has started septic tank installation but not completed in reporting period. Per Contractor's information, this is because of lack of time. According to Consultant's opinion the Contractor did not pay enough attention. In reporting period, the number of identified non-conformities - 8, of which 7 have been eliminated, one is in the process of elimination.

### 3.5 Unanticipated Environmental Impacts or Risks.

55. There are no unexpected environmental impacts or risks during reporting period.

## 4. RESULTS OF ENVIRONMENTAL MONITORING.

### 4.1. Overview of Monitoring Conducted during Current Period.

56. Instrumental monitoring was carried out in accordance with Monitoring Plan for Quality of Environmental Components (water, air, noise, vibration), reflected in SSEMP. Socially sensitive receptors and objects of increased environmental sensitivity are listed in Table 10.

**Table 10. Sensitive receptors at Project Sites.**

Lot 1	Lot 2
<ul style="list-style-type: none"> <li>• Balykchy town. High road, beginning of the section km 0 + 000 - 0 + 300</li> <li>• Tash-Sarai village, km. 11+000</li> <li>• Chu river, Tash –Sarai village (bridge), km 11+500</li> <li>• Irrigation ditch, km 12+055</li> <li>• Chu river, gauging station, bridge, km 42+600</li> <li>• Production base km 16+600</li> </ul>	<ul style="list-style-type: none"> <li>• Kok-Jar village at km 65+985</li> <li>• Chekildek village 70+003L</li> <li>• Epkin village, next to mosque km 86+540</li> <li>• Production base at km 81+500</li> <li>• Joon-Aryk River km 65+410</li> <li>• Sazdyn Suusu river km 86+261</li> <li>• Mukandyn suusu river km 68+044</li> <li>• Kok-Jar River cemetery km 68+000</li> <li>• Cemetery Chekildek village km 69+800</li> <li>• Cemetery Cholpon village km 82+800</li> </ul>

57. Instrumental monitoring of noise and vibration levels is being carried out by a specialized laboratory "ProfiLab".

58. Sampling and laboratory analyses of air and water quality are conducted by the Department of Environmental Monitoring (DEM) under the State Committee on Environment and Climate (SCEC). In the first quarter of 2022, the transfer of SCEC to the Ministry of Natural Resources, Environment and Technical Supervision of KR was completed.

59. During reporting period, instrumental measurements of noise and vibration levels were carried out in April and laboratory studies of water and air quality in June. Delays and postponements of scheduled dates and reduced frequency of monitoring in reporting period are associated with preparation and passing of accreditation of laboratories and verification of their equipment abroad.

60. Contractor conducted instrumental monitoring of air quality, vibration and noise in areas of high environmental sensitivity and socially sensitive receptors along Project Road and at quarries (Photos 112-117).



Photo 112. Lot 1. Balykchy, Roundabout. Noise and vibration measurements



Photo 113. Lot 1. Production base km. 16+600. Measurements of air quality level.



Photo 114. Lot 2. Production base. Crusher. Noise and vibration measurements



Photo 115. Lot 1. Water intake from irrigation canal, km. 12+000.



Photo 116. Lot 2. Km. 65+410 No water in Joon-Aryk River.



Photo 117. Lot 2. km 88+795. Zhar-Korundu River

61. The noise and vibration levels during operation of Contractor's vehicles and equipment in quarries and production bases and during construction works were within maximum permissible levels (MPL). Vibration levels of operating construction equipment were also within the MPL.

62. Water analysis results showed suspended solids MPL values exceeded in following rivers Lot 2: Mukandyn-Suus River, Sazdyn-Suus River, Zhar-Korundu River. Water samples were taken in rivers upstream and downstream of bridge construction site. Increase in suspended solids concentration is observed at bridge construction site: water samples were taken in rivers upstream and downstream of bridges.

63. Probable cause of suspended solids exceedance in rivers is possible soil flowing into water:

- During construction of bridge km. 68+040 the prevention of soil flow into Mukandyn-Suus River is not ensured (Photo 108).
- Construction of bridge km 86+261 and km 88+795 has already been completed, but temporary bypass road built for construction period has not been disassembled. At these sections, there is a possibility of soil slumping and falling into river (Photo 110 and 111).



**Table 11. Results of air instrumental monitoring.**

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
<b>LOT 1</b>							
<b>70. Balykchy town 0+000 km</b>  Latitude 42°27'09 Longitude 76°09'37''	Dec 2015 (baseline)		0,022±0,004	0,05±0,006	0,29±0,07	43,1	92,4
	June 2021 (baseline)	0,4±0,08	0,082±0,021	0,008±0,002	0,073±0,015	68	96
	Aug 2021 (baseline)					65	97
	Oct 2021 (baseline)		0,135±0,24	0,085±0,01	<0,2	79	91
	Dec 2021 (baseline)		0,164±0,03	0,05	0,228±0,057	70	95
	April 2020 (baseline)					66	98
	June 2020 (baseline)	<0,05	0,15±0,03	0,325±0,057		66	96
	August 2022 г.					70	91
	September 2022 г.	0,7±0,14	0,081	0,138	0,164		
	October 2022 г.					73	94
	April 2023 г.					69	97
June 2023 г.	0,9±0,18	0,079±0,14	0,078±0,009	0,159±0,040			
<b>71. Tash-Sarai village 11+000 km</b>  Latitude 42°22'14 Longitude 76°04'53''	Dec 2015 (baseline)		0,027±0,005	<0,05	<0,26	40,2	91,7
	June 2021 (baseline)	0,2±0,08	0,025±0,0063	0,004±0,001	0,4±0,08	57	87
	Aug 2021 (baseline)					65	88
	Oct 2021 (baseline)		0,09±0,016	<0,05	<0,2	70	92
	Dec 2021 (baseline)		0,053	<0,05	0,228±0,05	68	92
	Apr 2022						62
	Jun 2022		0,04±0,01	<0,05	0,2±0,05		66
	August 2022 г.					70	88
	September 2022 г.	0,12	0,06	0,149	0,246		

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	October 2022 г.					64	85
	April 2023 г.					55	101
	June 2023 г.	1.1±0,22	0,078±0,014	0,088±0,011	0,246±0,062		
<b>72. Production base (Asphalt plant, crushing plant) Quarry km 16+600</b> Latitude 42°22'14 Longitude 76°04'53" <b>Asphalt Plant Rock Crusher</b>	June 2021 (baseline)	0,7±0,14	0,033±0,0083	0,006±0,0015	0,012±0,0024	62	93
	Aug 2021						90
	Oct 2021		0,05	<0,05	0,25	65	94
	Dec 2021		0,087	<0,05	0,19	58	87
	Apr 2022		0,07±0,01	<0,05	0,25	61	93
	Jun 2022		0,04	<0,05	0,35	58	84
	June 2022	0,07±0,01	<0,05	0,25	58	84	
	June 2022	0,04	<0,05	0,35			
	August 2022 г.					61	91
	September 2022 г.	0,5	0,07	0,27	0,49		
	October 2022 г.					57	89
	April 2023 г.					61	92
	June 2023 г.	2.1±0,42	0,076±0,014	0,067±0,008	0,246±0,062		
<b>Quarry km 7+100</b> Latitude 42°40'60 Longitude 76°09'32"	June 2021 (baseline)					58	90
	Aug 2021					50	91
	Oct 2021					47	77
	Dec 2021					70	90
	Apr 2021		Quarry not active				
	June 2021		Quarry not active				
<b>Quarry 9+000</b>	June 2021 (baseline)					46	90

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
Latitude 42°38'89 Longitude 76°09'86''	Aug					49	90
	Oct 2021					47	77
	Dec 2021					62	94
	Jun 2022					53	66
	August 2022 г.					68	90
	October 2022 г.					51	84
	April 2023 г.					66	69
	June 2023 г.	1.1±0,42	0,053±0,014	0,036±0,008	0,16±0,062		
<b>Quarry km 26+800</b> Latitude 42°29'36 Longitude 76°09'94''	June 2021 (baseline)					51	85
	Oct					54	87
	Dec 2021		0,02	0,05	0,2	52	91
<b>Quarry km34+240</b>	April 2022					58	86
	June 2022					64	87
	August 2022 г.					63	89
	October 2022 г.					61	88
	April 2023 г.					53	90
	June 2023 г.	2,0±0,3	0,06±0,014	0,04±0,008	0,15±0,06		
<b>LOT 2</b>							
<b>73. Kok-Jar village km 65+985</b> Latitude 42°19'17 Longitude 75°65'33''	December 2015 (baseline)		<0,02	<0,05	<0,26	57	90
	June 2021 (baseline)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,012±0,0024	51	88
	Aug (baseline)					49	83
	Oct (baseline)		0,042	<0,05	<0,2	63	90
	Dec (baseline)		0,167	005	0,347	53	94

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	Apr 2022						64
	Jun 2022		0,069±0,013	<0,05	0,2		64
	August 2022 г.					66	90
	September 2022 г.	0,5	0,053	0,122	0,164	57	92
	October 2022 г.						
	April 2023 г.					68	94
	June 2023 г.	2,1±0,42	0,074±0,013	0,092±0,011	0.159±0,040		
<b>74. Chekildek village km 70+003</b> Latitude 42°19'44 Longitude 75°60'80"	December 2015 (baseline)		0,023±0,004	<0,05	0,028±0,07	68,1	91,1
	June 2021 (baseline indicators)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,103±0,021	56	85
	Aug (baseline)					59	94
	Oct (baseline)		<0,02	<0,05	<0,2	62	91
	Dec (baseline)		0,072	<0,05	0,27	60	96
	April 2022						70
	Jun 2022		0,025	0,03	0,18		68
	August 2022 г.					65	88
	September 2022 г.	0,4	0,067	0,133	0,41		
	October 2022 г.					69	92
	April 2023 г.					60	96
June 2023 г.	0,1	0,074	0,058	0,159			
<b>76. Production base Quarry 81+200</b> Latitude 42°18'50 Longitude 75°47'84"	December 2015 (baseline)						
	June 2021 (baseline)	0,5±0,1	0,016±0,004	0,004±0,001	0,109±0,022	83	98
	Aug 2021	0,4				72	84
	Oct 2021	0,6	0,078	0,155	3,24±0,81	74	84

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	Dec 2021	0,85	0,02	0,05	<0,2	65	93
	April 2022						80
	Jun 2022		0,03±0,004	<0,05	0,4		45
	August 2022 г.					69	90
	September 2022 г.	0,18	0,05	0,142	0,246		
	October 2022 г.					70	88
	April 2023 г.					66	97
	June 2023 г.	2,11	0,076	0,067	0,238		
<b>Epkin village km 86+000 east side of the road</b> Latitude 42°10'24 Longitude 75°25'21''	June 2021 (baseline)					46	88
	Aug 2021					53	88
	Oct 2021	0,88	0,028	<0,5	0,02	61	83
	Dec 2021	0,92	0,056	<0,05	0,308	65	89
	April 2022						62
	June 2022		0,04±0,01	<0,05	0,25		56
	August 2022 г.						
	September 2022 г.	1,3	0,062	0,163	0,164		
	October 2022 г.						
	April 2023 г.					63	90
June 2023 г.	2,1	0,077	0,076	0,189			
<b>Quarry km. 71+500 north side of the road</b> Latitude 42°18'83 Longitude 75°58'95''	Aug 2021						52
	Oct 2021						67
	Dec 2021		0,012	0,05	0,347		69
	April 2022						66

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	June 2022						70
	August 2022 r.						
	October 2022 r.						
	April 2023 r.					60	89
	June 2023 r.	0,1	0,06	0,04	0,19		
<b>Quarry 75 + 400 near the house st. Orkoshov M, 30</b>  Latitude 42°19'27" Longitude 75°54'45''	Aug 2021					52	98
	Oct 2021					67	83
	Dec 2021		0,012	0,05	0,347	69	90
	April 2022					67	83
	June 2022					53	88
	August 2022					64	90
	October 2022					59	87
	April 2023 r.					56	80
June 2023 r.	1,1	0,078	0,088	0,4			

\* No environmental vibration level standards are provided.

Table 12. Results of laboratory tests of surface water quality.

Sampling location	Selection period	Transparency, cm	Petroleum products	BOD <sub>5</sub> , mRO <sub>2</sub> /dm <sup>3</sup>	Suspended substances, mg/l	Notes
maximum allowable concentration for water reservoirs of domestic category		Not less than 20	0,05* / 0,3**	3* / 2-4**	Increase 0,25/0,75	
<b>Lot 1</b>						
148. the river Chu	December 2015 (background)	41	<0,05			
	June 2021 (background)	24	0,012	1,3	3,2	
	October 2021 (construction work in progress)	24	0,07	1,29	0,8	
	December 2021.	15	0,066	2,0	13	
	June 2022	13	0,03	2,3	15	
	September 2022	45	0,0155	0,64	<3,0	
	June 2023	43	<0,005	0,87±0,226	3,20±0,96	Background measurements
149. Irrigation canal	June 2021 (background)	26	0,02	2,5	3,0	
	October 2021 (construction work in progress)	25	0,15	1,23	0,6	
	December 2021	There was no water				
	June 2022	14	0,02	2,3	11	The work was carried out
	September 2022	43	0,0155	0,28	<3,0	

	June 2023 r.	43	0,0351±0,012	2,66±0,692	4,00±1,20	Natural background
150. Chu River, Hydropost. Orto-Tokoi Reservoir km. 42+600	December 2015 (background)	37	<0,05	0,3	3,0	Background measurements 2015
	June 2021 (background)	23	0,017	1,1	3,4	
	October 2021	22	0,04	0,3	0,8	
	December 2021	20	0,048	3,2	18,0	
	June 2022	24	0,01	2,8	16,0	
	September 2022	45	0,0125	0,63	<3,0	
	June 2023 r.	42	0,06 ±0,021	0,82±0,213	3,60±1,080	Natural background
<b>Lot 2</b>						
151. Joon-Aryk River. km.65+410	December 2015 (background)	40	<0,05			Background measurements 2015
	June 2021 (background)	>50	0,03	1,4	1,4	
	October 2021	40	0,04	1,24	0,6	
	December 2021	13,4	0,05	1,4	18,4	
	June 2022	12	0,03	1,2	20	
	September 2022.	37	0,095	2,54	<3,0	



	June 2023 r. over the bridge under the bridge	There was no water				
152. Sazdyn-Suusuu river. km. 86+261	June 2021 (background)	39	0,026	0,3	3,0	
	October 2021.	>50	0,07	0,46	7,6	
	December 2021.	18	0,062	1,5	15,2	
	December below the bridge	17,1	0,045	1,4	27,2	
	June 2022. Before the bridge	15	0,04	1,9	17	
	After the bridge	14,5	0,04	1,7	15	
	September 2022.	24	0,085	0,87	<3,0	
	June 2023 r. over the bridge under the bridge	30 29	<0,005 <0,005	0,68±0,177 1,16±0,302	2,8 4,80±1,44	The background concentration of suspended solids was increased by 2 mg/l, with the permissible 0.75
153. Mukandyn-Suusuu river. Km.68+044	June 2021 (background)	10	0,026	1,1	20	
	October 2021	38	0,06	2,2	12	
	December 2021	1,0	0,064	1,4	70	

	June 2022	12	0,03	1,8	25	
	September 2022	45	0,0125	0,63	<3,0	
	June 2023 r. over the bridge	43	<0,005	0,68±0,177	3,60±1,080	Background concentration of suspended solids is increased by 1, 2 mg/l, with the permissible 0.75
	under the bridge	37,7	<0,005	1,16±0,302	5,20±1,560	
154. Zhar-Korundu river. km. 88+795	June 2021 (background)	39	0,022	2,5		
	October 2021	35	0,04	3,8	0,4	
	December 2021 above road	14,2	0,05	4,6	26	
	Below the road	2,5	0,042	2,3	30	
	June 2022. before the bridge	18	0,02	2,18	20	
	after the bridge	15	0,025	2,0	17	
	September 2022	19	0,015	1,19	<3,0	
	June 2023 r. over the bridge	31	<0,005	0,68±0,177	2,8	The background concentration of suspended solids was increased by 3.2 mg/l, with an allowable 0.75
under the bridge	33,5	<0,005	1,16±0,302	6,00±1,80		

## **4.2. Trends.**

64. When comparing records of current and previous monitoring periods, there is an increase in Contractor's level of responsibility on environmental topics and a decrease in repeated non-compliances.

65. There were some cases of exceeding MPC norms of suspended solids content in water objects Lot 2: Mukandyn-Suusuu r., Sazdyn-Suusuu r., Zhar-Korundu r. Sazdyn-Suusuu r., Zhar-Korundu r. Increase in suspended solids concentration is observed in section of bridge construction site: water samples were taken in rivers along the water course at points upstream and downstream of the bridges.

– during bridge construction km. 68+040 soil inflow into Mukandyn-Suusuu r. was not prevented (Photo 108)

– bridge construction km.86+261 and km.88+795 has already been completed, but the bypass road constructed during the construction works has not been dismantled. At these sections, there is a possibility of soil slumping and falling into the river (Photos 110 and 111).

To prevent soil inflow into water objects, Contractor was recommended to: - ensure proper water drainage without soil inflow into Mukandyn-Suusuu r. Upon completion of works to conduct laboratory tests of water for suspended solids content. Recommendation has been implemented (Photo 111). Laboratory tests are required.

– Ensure dismantling of temporary bypass roads and reclamation of these land plots used for the bypass road during bridge construction km. 86+261 and km.88+795. Upon completion of works to conduct laboratory tests of water for suspended solids content in rivers Sazdyn-Suusuu, Zhar-Korundu along their flow upstream and downstream of bridge by July 15, 2023.

## **4.3. Summary of Monitoring Outcomes.**

66. During reporting period Contractor's performance is evaluated as satisfactory. Contractor eliminated non-compliances and implemented SSEMP recommendations in a timely manner. Only one non-compliance could not be completed by deadline. CSC will work closely with Contractor and subcontractors to support Project compliance with environmental safeguards.

67. In reporting period, instrumental measurements of noise and vibration levels were carried out in April and quality of environmental components (air and water) in June. In accordance with Instrumental Monitoring Plan, in reporting period water and air quality surveys, as well as noise and vibration measurements shall be conducted 3 times. Delays and postponements of planned dates and reduction of monitoring frequency in reporting period are related to preparation and passing of accreditation of laboratories and verification of their equipment abroad.

68. According to instrumental surveys of air quality and noise and vibration levels, there is no impact of construction on environment. Concentrations of substances for determined components in air are within specified MPCs and MPLs.

## **4.4 Material Resources Utilization.**

### **4.4.1 Current period.**

#### **Water Resources**

69. Contractor's requirements for drinking water in camps, offices, and worksites are brought from local suppliers by containers of five (5) gallons. For water requirements for domestic water supply, batching plants, equipment maintenance areas, and fabrication areas, Contractor developed spring sources near campsites. Water is pumped from spring to water tanks and distributed by a pipeline to faucets.

70. To provide water for dust suppression, Contractor obtained permission from local authorities to intake water from following sources listed in Table 13.

- Letter of consent of Kok-Jar village administration No. 319 dated July 21, 2020
- Letter of consent of Cholpon village administration No. 405 dated June 20, 2020.

Table 13. Water Source Intake Points Lot-1 and Lot-2.

No	Water source	GPS coordinates
<i>For Lot 1</i>		
1	Orto-Tokoi reservoir	N 42* 12.765 E 075* 30.966
2	Orto-Tokoi reservoir	N 42* 18.315 E 075* 54.123
3	Orto-Tokoi reservoir	N 42* 17.739 E 075* 55.975
4	River Chu	N 42* 21.882 E 076* 03.894
5	River Chu	N 42* 22.324 E 076* 04.886
6	River Chu	N 42* 23.207 E 076* 05.868
7	River Chu	N 42* 23.831 E 076* 05.939
<i>For Lot 2</i>		
1	Joon-Aryk	N 42* 10.394 E 075* 25.194
2	Mukandyn Suusu	N 42* 10.394 E 075* 39.708
3	Chekildektin Suusu	N 42* 11.852 E 075* 37.128
4	Sazdyn Suusu	N42*09.753 E075*23.393
5	Sazdyn Suusu	N42*09.798 E075*23.576
6	Tarmal Saz	N42*11.266 E075*34.744

### **Filling Materials and Aggregates.**

71. Soil and aggregates needed for filling, embankment, subgrade, and subbase works are obtained from quarries near road alignment. Before developing and mining the land, Contractor obtained necessary permits from respective owners and from local and national government authorities that have jurisdiction over identified quarry sites.

72. As of end June 2023, Contractor holds 21 quarries for construction material. Table 14 shows characteristics of these quarries.

Environmental mitigation measures envisaged by Quarry Management Plan are being implemented, namely: topsoil has been removed, boundaries of quarry areas are marked, and sprinkling of excavated material and access roads to quarry sites is carried out.

Within the reporting period quarries km.16+600, km. 22+700, km. and km.34+240 were operated Lot 1 and development of quarries km. 71+500, 75+400, km.81+300, km.86+000 and km.89+093 Lot 2.

During the reporting period, quarry development at km.26+800 was completed and technical reclamation was performed in December (photo 64).

Table 14. Characteristics of Quarries.

No	Location		Volume (m3)	Land Area (ha)	Distance from the road	Yes/no development was in progress
	Station	Village				
<i>Lot 1</i>						
No1	km. 5+500		600 000	5,09	430 m	No
No2	km. 7+100		164 000	4,1	122 m	No
No3	km. 7+200		195 200	4,88	122 m	No
No4	km. 9+000	Boz-Barmak	380 000	7,6	25 m	No
No5	km. 16+600		1 744 000	43,6	42 m	Yes
No6	km. 16+600		51 000	12,84	42 m	Yes

№7	km. 16+600		113 000	2,83	42 m	Yes
№8	km. 19+360		66 500	22,16		No
№9	km. 20+600		65 600	1,64	120 m	No
№10	km. 22+700		380 000	9,5	37 m	No
№11	km. 26+800		488 000	12,2	80 m	Depleted
№ 12	km. 34+240		245 600	6.14	325 m	Yes
№ 13	km. 39+450		164 000	4.1	520 m	No
№ 14	km 43+400		124 000	3.1	40 m	No
Lot 2						
№15	km. 71+500		-	5,2	5 m.	Depleted
№16	km. 75+400		108 000	2,7	30 m.	Yes
№ 17	km.81+200		-	5,6	50 m	No
№18	km 81+400		375 000	7,5		No
№19	km 81+400		305 000	6,1		No
№ 20	km. 86+000	Epkin	85 000	2,0	20 m	Yes
№ 21	km. 89+093		105 145	0.77		Yes

### **Cement, Asphalt, and Reinforcing Steel Bars.**

73. The cement, asphalt and reinforcing steel bars needed for fabrication or construction of culverts, concrete pipes, bridges retaining walls and other concrete structures are obtained from approved commercial sources.

**Fuel, Lubricants, Acetylene.** Fuel requirements for the heavy equipment, machineries and vehicles are supplied by gasoline stations near the project sites, either pumped into the Contractor's cylindrical tank installed near the fabrication areas or by the drums. These are stored in Contractor's fuel storage area. Lubricants and acetylene are supplied also from commercial sources within locality.

#### **4.4.2 Cumulative Resource Utilization.**

74. From project start until end of June 2023 Contractor removed from quarries 459 507 m<sup>3</sup> of fill/rock/cumulative material for Lot 1 and 487 444 m<sup>3</sup> of these materials for Lot 2. As of this report period, Contractor do not have a record or breakdown of actual utilization of water (drinking, domestic supply, batching plants, watering of sites and production areas, equipment washing areas, etc.). For worksite watering, the Contractor currently has 12 water trucks being used throughout Lot 1 and Lot 2. When hot weather starts, regular water spraying of unpaved road sections is organized. Because of heat weather there is still dusting on road. Water is also used for technological purposes: for preparation of concrete mixes and for production needs: rinsing of Concrete Mix Plant after preparation of concrete mixes and rinsing of concrete mixer tanks. Table 15 Summary of Contractor's use of construction materials as of June 30, 2023.

**Table 15. Contractor's Construction Materials Utilization.**

Material	Total Demand	Total Utilized	% Completion	Remaining Quantity	Unit
Bitumen	13507	10074	75%	3433	Tons
Aggregates	273146	165688	60,6%	150770	Tons
Crushed stone mix	354836	284364	80%	74981	Tons

#### 4.5 Waste management.

75. After major and secondary road reconstruction works the following wastes were generated:
- unusable soil
  - removed old asphalt and demolished concrete slabs
  - domestic solid waste (biodegradable and non-biodegradable) from the kitchen, dining areas, offices and camps
  - wastewater and solid waste generated by personnel at construction camp

76. The spoils and scarified asphalt are disposed in Project's disposal sites. Contractor has all necessary permits from relevant state agencies (aiyl okmotu, territorial environmental authorities) for disposal of unusable soil and old asphalt concrete in old pits in accordance with Landfill Plan, agreed with the Department of Environmental Protection of SCER KR. Table 16 shows utilization of soil disposal sites while Table 17 - scarified asphalt disposal sites.

Lot 1. Km. 12 + 000 (letter of consent of Kok-Moynok village administration No. 465 of 10.16.2020. Permit of the Issyk-Kul territorial administration of the State Agency for Environmental Protection and Forestry for disposal of waste in the environment No. 005952 dated 19.10.2020, No. 005967 dated 20.05.2021).

Lot 2. Km. 80 + 900 and km 89 + 090 (Permit of the Naryn Territorial Department of Environmental Protection No. 02-4 / 682 dated 03.11.2020, Letter of consent of Cholpon village administration No. 662 dated 29.10.2020, Permit of Kochkor Forestry Development Department Forest ecosystems No. 02-2 / 71 dated 27.04.2021).

Table 16. Characteristics of unusable soil dump sites.

№	Location		Distance from the road (m)	Spoil capacity			Spoil quantities m <sup>3</sup>	As of december 30 2022	Assessment of conditions and compliance to environmental protection measures
	Station	Village		(LS/RS)	Area, m <sup>2</sup>	Height m			
<b>Lot 1</b>									
1	km 12+100	Tash-Sarai	100 (LS)	1250 0	4	50 000	24544	Activity is completed	Satisfactory. Leveling required.
2	km 40+360	-	30 (LS)	1064 5	2,1	22 015	4489	Not yet used	Satisfactory. Leveling required
<b>Lot 2</b>									
3	km 71+640		410 (LS)				918		Satisfactory. Leveled.
4	km 71+860		1( <b>RS</b> )				2632		Satisfactory. Leveled.
5	km 80+900		29(LS)				2207		Satisfactory. Leveled.
6	km 89+090		<b>RS</b>				3049		Satisfactory. Leveled.
7	70+180		400(LS)				11704		Satisfactory. Leveled soil.
8	KM 71+640	-	12 (LS)	3850	4	5 401	14691	Active	Satisfactory. Soil is spread and levelled.
9	KM 71+860	-	12 (LS)	2069	4	8 278	8758	Active	Satisfactory. Soil is spread and levelled.
10	KM 80+900	-	70 (LS)	4200	3	12 600	12000	Active	Leveling required
11	KM 89+090	-	60m (RS)	1200 0	1,8	21 800	18000	Active	Satisfactory. Soil is spread and levelled

Table 17. Characteristics of old scarified asphalt dump sites

№	Location		Distance from the road (m) (LS/RS)	Spoil capacity			Disposed Quantity m <sup>3</sup>	As of december 30 2022	Assessment of conditions and compliance to environmental protection measures
	Station	Village		Area, m <sup>2</sup>	Height m	Capacity (m <sup>3</sup> )			
Lot 1	km 7+000	50 (RS)	10 400		62 862	21000	21000	Active	Satisfactory. Old asphalt is spread and levelled. No negative comments.
	km 20+100	50 (RS)	48 700		33 902	9000	9000	Activity completed	Satisfactory. Old asphalt is spread and levelled. No negative comments. Recultivation is required
	km 21+260	-	50 (RS)	48 700		80 374	10500	Activity completed	Satisfactory. Old asphalt is spread and leveled.
	km 32+720	-	150 (LS)	4 100	3,0	16 000	11500	Activity completed	Satisfactory. Old asphalt spread and leveled. Spoil has been reclaimed.
	km 38+660	-	545 (LS)	26 100	3,0	78 535	3500	Active	Leveling required.
	km 40+200	-	141 (LS)	9 000	1,4	12 461	4500	Active	Leveling required.
	Km 40+360		106400			4500		Active	Leveling required.
Lot 2	km 70+180	-	400 (RS)	18 800	4,4	82 784	11000	Active	Satisfactory.
	km 89+090	-	80 (RS)	12 000	1,8	21 800	22000	Still active	Satisfactory. Old asphalt is spread and leveled.



77. Solid domestic waste is removed (photos 118-122) and placed in municipal landfill in Balykchy and v. Cholpon. Wastewater is transported to treatment facilities of Balykchy in accordance with contract with municipal enterprise Balykchy - "Gorvodokanal".



Photo 118. Lot 1. Solid waste removal from production base



Photo 119. Lot 1. Solid waste removal from production base



Photo 120. Lot 1. Solid Waste removal from Contractor's camp

СЧЕТ НА ОПЛАТУ № 197 от 18 мая 2023 г.

Поставщик 201	ИНН 0280420031	Получатель 301	ИНН
202	Ф.И.О. «Инициализированное предприятие»	302	Ф.И.О. «Инициализированное предприятие»
203	М.П. «Благоустройства и санитарной очистки»	303	Адрес: г. Биликчи, Вокз. д. 28а
204	Казначейский счет код платежа 14238900	304	Код и наименование РИИ
205	0 2 0	305	Код (МНС) и наименование ЦРМ/ФКР
206	4 4 0 0 0 1	306	Код (МНС) и наименование района/счета
207	4 4 0 4 0 6 1 2 2 3 0 0 0 6 2 4	307	расчетный счет

Дата и тип поставки 401 1 8 0 5 2 0 2 3 402 несоблаженная

Способ платежа 403 перечислением

Наименование товаров (работ, услуг)	Ед. измер.	Кол-во (объем)	Цена (сом)	Стоимость товаров, работ, услуг без НДС		НДС		Налог с продаж	Всего стоимость реализации (с НДС)
				Ставка 0%	Ставка 0%	Ставка 0%	Ставка 0%		
За вывоз ТБО мая 2023 г	Куб метр	3.75	350.00	0.00	0.00	0.00	0.00	1312	
ГСМ за проезд	литр	20	70.00	0.00	0.00	0.00	0.00	1400	
				0	0	0	0	2712	

М.П. РУКОВОДИТЕЛЬ  
ГЛАВНЫЙ БУХГАЛТЕР

Photo 121. Lot 1. Receipt of payment for solid waste removal



Photo 122. Lot 2. Solid Waste removal from Contractor's camp

2023/02/28 15:28

Дата	Вид отходов	Вид
18.05.2023	строительные отходы	1.000
19.05.2023	жидкие отходы	1.000
20.05.2023	жидкие отходы	1.000
21.05.2023	жидкие отходы	1.000
22.05.2023	жидкие отходы	1.000
23.05.2023	жидкие отходы	1.000
24.05.2023	жидкие отходы	1.000
25.05.2023	жидкие отходы	1.000
26.05.2023	жидкие отходы	1.000
27.05.2023	жидкие отходы	1.000
28.05.2023	жидкие отходы	1.000
29.05.2023	жидкие отходы	1.000
30.05.2023	жидкие отходы	1.000
31.05.2023	жидкие отходы	1.000

Photo 123. Lot 2. Log book of Solid Waste and Liquid Waste.

#### **4.5.1 Current period.**

78. For reporting period total unusable soil from earth works is 26215 m<sup>3</sup>. Where 3164 m<sup>3</sup> is Lot 1 and 23051 m<sup>3</sup> is Lot 2. By June 2023 total unusable soil is 102992 m<sup>3</sup>; 29033 m<sup>3</sup> - Lot 1 and 73959 m<sup>3</sup> - Lot 2. All materials were transported to the soil stockpile sites as indicated in Table 17.

79. During reporting period, amount of asphalt removed from Lot 1 was 5880 m<sup>3</sup>. Materials are disposed at approved landfills as shown in Table 18. Total scarified asphalt Lot 2 was 630 m<sup>3</sup>.

80. Solid waste was generated from activities of workers living in camps collected by Balykchy municipal government and disposed in Balykchy municipal landfill. Solid domestic waste in Lot 2 is transported from construction camp to Cholpon aiyl okmotu municipal landfill. The amount of solid waste for in the reporting period for Lot 1 was 11250 kg, for Lot 2 - 2000 kg. Wastewater is taken to Balykchy wastewater treatment as per contract with Balykchy municipal enterprise "Gorvodokanal". The volume of removed wastewater from Lot 1 amounted to 11.4 tons, from Lot 2 - 6 tons

#### **4.5.2 Cumulative Waste Generation.**

81. Major part of waste generated is soil and cut asphalt, as mentioned above. Total amount of waste from project start until end of June 2023 is 167 482 m<sup>3</sup>. The cumulative domestic solid waste generated by Project is 43,1 tons.

82. There are no records of various types of liquid wastes quantities generated as these are difficult to quantify. However, wastewater from the kitchen, laundry areas and toilets are collected in three-chamber septic tanks which are being emptied by the municipal sanitation departments. The wastewater from the concrete batching plants is collected into a 3-chamber tank through a lined canal. The tank is made of waterproof concrete.

#### **4.6 Health and safety.**

##### **4.6.1 Public health and safety.**

83. During this reporting period, there were no incidents or accidents related to construction activities that affected public health and safety. Warning signs and information boards were installed at the work sites.

##### **4.6.2 Health and safety of workers.**

84. During this reporting period, there were no accidents or other diseases among Contractor's working personnel. The Contractor's workers' accommodation camps on Lots 1 and 2 are maintained in good condition and comply with hygienic and sanitary standards (Photos 41-54). Good living conditions have been created for workers. Contractor provided workers with disinfectants, antiseptics and personal protective equipment (masks, respirators, and gloves), also disinfectants and antiseptics were installed in all public places.

85. In the camp on Lot 1 and Lot 2 there are conditions for personal hygiene: there is a bathroom with a shower bathroom with a shower, personal hygiene products in each room. Provided "entry" and daily temperature control with registration in the Logbook. Hospitals in Balykchy and Kochkor villages. Kochkor concluded agreements for the provision of medical services. Contractor complies with the "Plan of response, prevention and prevention of spread of COVID-19". In September 2021, vaccination of 99% of employees on Lot 2 was carried out.

86. That following information posters were posted and maintained at the Contractor's camp for Lot 1 and Lot 2:

- Structure of the safety management organization. Responsible persons and their contact information.
- Information posters on protective measures against COVID-19, safety precautions, first aid.
- Fire shields and fire extinguishers installed.

#### 4.7. Trainings

87. Some trainings were carried out for the project during the previous years as discussed in the previous reports. During the reporting period on April 28, Consultant's local ecologist together with Safety Engineer conducted training for Contractor's personnel on SSEMP environmental safeguards and Safety (Photos 124, 125). From project start date 6 trainings on environmental safeguards and 4 trainings on Safety were conducted.

ADB's international and local environmental safeguards specialists conducted a two-day safeguards workshop May 25-26, 2023 for Consultant and Contractor staff involved in ADB projects. The workshop was very interesting and useful, especially its practical part (photo 126).



Photo 124. Lot 1. Training on environmental safeguards and SSEMP implementation and photo 125 on Lot 2.



Photo 126. ADB workshop

## **5. FUNCTIONING OF THE SEMP.**

### **5.1 SEMP Review.**

88. Review and approval of the SSEMPs were completed in 2020. MoTC KR approved SSEMP for Lot 1 in October 2020 and for Lot 2 in November 2020. SEMP is effective. The envisaged mitigation measures are relevant and do not require changes. Contractor can implement the established SEMP requirements. In line with IEE recommendations, each SSEMP includes 14 separate annexes:

1. Emergency Management Plan
2. Grievance consideration mechanism
3. Occupational safety, health and hygiene plan
4. Construction camp management plan
5. Construction waste management plan
6. Noise management plan
7. Water quality management plan
8. Air quality management plan
9. Tree management plan
10. Dust control plan
11. Land Protection Management Plan
12. Plan of environmental protection during the construction and reconstruction of bridges
13. Quarry Management Plan
14. Plan for the prevention and control of COVID-19.

89. A plan to prevent the spread of COVID-19 was developed additionally considering the current epidemiological situation.

90. During construction work, Contractor ensured implementation of mitigating measures for impact of construction work on environment in accordance with SSEMP.

## **6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT.**

### **6.1 Good Practices.**

91. An example of "Good Practice" reporting period is the high level and promptness of interaction between ADB, PIU, Consultant and Contractor in implementing ADB's Policy on Protective Measures and the requirements of the SSEMP in case of discovery of burial during construction works, namely:

May 16, 2023 during construction works on Lot 2 at road section km. 62+050 v. Tendik, next to the existing cemetery: during removal of the existing old road, a burial site / grave was discovered under its base (Photo 127).

Immediately, the Contractor verbally notified Consultant and later sent a formal letter on this fact to PIU & Consultant. The construction work at the site was stopped.

Resident Engineer and Consultant's and Contractor's environmental specialists visited the site (Photo 128).

The heads of the aiyl okmotu and local clergy of the village were immediately informed about the burial.

Contractor was requested by local imam to carry out reburial without archaeological investigations, as the head of the aiyl okmotu verbally informed that the burial had been carried out in modern times.

After consultations with the local archaeologist, clarification was obtained on the necessary measures to take action in this case in accordance with the requirement of the Kyrgyzstan legislation as well as ADB's policy on protective measures.

On the same day Consultant's and Contractor's ecologists met with the head of aiyl okmotu, it was not possible to obtain any documentary confirmation or archival data on the discovered burial from aiyl okmotu due to the lack of archival documents.

The following actions have been taken by Contractor in accordance with instructions received from PIU and Consultant:

1. An archaeologist was invited to the burial discovery site to conduct an archaeological survey of the discovered burial.
2. On May 20, 2023 an archaeologist conducted a survey of the burial site (Photos 130, 131). According to the results of the archaeological survey it was determined that the burial was a modern Muslim burial corresponding to the second half of the 19th century and the first half of the 20th century and does not belong to the CHHS.
3. In accordance with the conclusion of the archaeological survey, the remains were reburied in a nearby cemetery (Photo 134) and the Koran was recited with a sacrifice according to Muslim traditions (Photo 133).

ADB Mission visited the site of found burial during a site visit May 18 (Photo 132).



Photo 127. Lot 2. Found burial, under existing road base at km 62+500, Tendik v.



Photo 128. Lot 2. Km. 62+500. v. Tendik. Inspection by Consultant and Imam of found burial site.



Photo 129. Lot 2. Inspection of burial by mosque imam v. Tendik.



Photo 130. Lot 2. Km. 62+500. Survey of burial site by archaeologist.



Photo 131. Lot 2. Archaeologist survey of burial site km.62+500.



Photo 132. Lot 2. Tendik v. km. 62+500. ADB mission. Inspection of found burial site.



Photo 133. Lot 2. Imam reads a prayer and performs a sacrifice



Photo 134. Lot 2. Site of new burial

## 6.2 Opportunities for Improvement.

92. The CSC recommends inclusion of the following activities to improve the current practices:

- Provide required PPE to both CSC and Contractor's workers and personnel, including helmet, safety boots or boots. Special PPE shall be provided for hazardous work, including safety harnesses for work at heights (if applicable), protective mask for welders, protective gloves for mechanical workers, etc.
- Complete construction of a septic tank with a watertight base to collect wastewater after flushing of the concrete mixing plant and concrete mixer tanks.
- Ensure timely instrumental monitoring of environmental components quality.

## **7. SUMMARY AND RECOMMENDATIONS.**

### **7.1 Summary.**

93. In general, based on monthly inspections and monitoring of construction sites, Contractor has satisfactory performance in mitigating and preventing negative environmental impact of works. Most of identified non-compliances were eliminated by Contractor within set timeframes.

### **7.2 Recommendations.**

94. CSC recommends that suggestions for improvement listed in Section 6.2 be started.