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Semi-Annual Environmental Monitoring Report
January 1 – June 30, 2020

Kyrgyz Republic:

CAREC Corridor 3 Improvement Project (Bishkek – Osh road), Phase 4 (km 15.9 – km 61)

Financed by the Asian Development Bank

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Abbreviations and Acronyms

ADB	-	Asian Development Bank
CAREC	-	Organization of Central Asian Regional Economic Cooperation
CSC	-	Construction Supervision Consultant
EMP	-	Environmental Management Plan
IPIG	-	Investment Project Implementation Group
km	-	kilometer
KR	-	Kyrgyz Republic
MPC	-	Maximum permissible concentration
MPL	-	Maximum permissible level
MoTR	-	Ministry of Transport and Roads of the Kyrgyz Republic
MoF	-	Ministry of Finance of the Kyrgyz Republic
SAEPF	-	State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic
SIETS	-	State Inspectorate for Environmental and Technical Safety under the Government of the Kyrgyz Republic
DDPTSES	-	Department of Disease Prevention and State Sanitary-Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic
TS	-	Technical Specification
CEMWP	-	Construction Environmental Management Work Plan
AP	-	Asphalt Plant
SCP	-	Stone crushing plant
CBP	-	Concrete batch plant

1. INTRODUCTION

1.1 Preamble

1. Roads are essential for the Kyrgyz Republic, in this regard, the Government of the Kyrgyz Republic appealed to the Asian Development Bank (ADB) to assist in funding for the realization of CAREC Corridor 3 (Bishkek-Osh road) Improvement Project, Phase 4.

2. This report is the sixth "semi-annual" environmental monitoring report, covering the ongoing CAREC Corridor 3 (Bishkek-Osh road) Improvement Project, Phase 4, for the period from January to June 2020. The monitoring report contains environmental issues, mitigation and monitoring measures taken by the Contractor and monitored from January to May by the EPTISA and from June 1 Temelsu Construction Supervision Consultant, at the same time, a national environmental specialist (Tatyana Volkova), after the necessary procedures, continued working in the team of the new consulting company TEMELSU. During the reporting period, the road rehabilitation works included: reconstruction of six bridges, replacement of culvert pipes, removal of old asphalt, preparation of new road lanes in the eastern and western directions, construction of sidewalks and culvert chutes and tree planting, as well as operation of asphalt and concrete plants, and the aggregate processing plants.

3. This report contains the progress of work and changes related to the prevention of environmental impacts. The results are based on numerous site visits, conducted by a national environmental specialist from January to June 2020, wherein the focus was on monitoring of compliance with the environmental and safety requirements during the road construction, construction of bridges and culvert pipes, seedling planting, and traffic management.

1.2 Headline information

4. The Bishkek-Osh road represents about one fourth of international road network in the Kyrgyz Republic, and links the country to Kazakhstan in the north, Uzbekistan and Tajikistan in the south, and the People's Republic of China in the southeast. The road crosses four of the seven regions of the country and serves about 2 million people. It is the only direct surface link between the southern and northern parts of the country making it crucial for maintaining the country's social, political, and economic integrity. The Bishkek-Osh road forms part of the CAREC Corridor 3, which runs from the west and south Siberian region of the Russian Federation through Kazakhstan, Kyrgyz Republic, Tajikistan, Afghanistan, and Uzbekistan to the Middle East and South Asia.

5. The CAREC Corridor 3 (Bishkek-Osh road) Improvement project, Phase 4, (Bishkek-Kara-Balta section, 45.1 km long) aims to improve connectivity and market access in the Kyrgyz Republic. The project's benefits will be efficient movement of freight and passenger traffic along the Bishkek-Osh road, improved safety for both road users and pedestrians, as well as minimizing the environmental impact of the road in terms of noise impact from passing traffic by upgrading of asphalt pavement.



Figure 1 Bishkek-Kara-Balta road section, of the Bishkek-Osh Road (Source: Hagler Bailly, Pakistan, 2016)

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

2.1.1 Location of the project site and design

6. The project will improve connectivity between north and south in the Kyrgyz Republic. The project output will be efficient movement of freight and passenger traffic along the Bishkek-Osh road. According to the classification of the ADB Safeguard Policy Statement, the project classified as Category B. Improvement of the Bishkek-Osh road section (Bishkek-Kara-Balta section) will connect important, but densely populated areas, what will ultimately provide better access to services, goods and markets; improve regional connectivity and increase road safety for all road users in general.

7. The project provides for the rehabilitation of 45.1 km of the Bishkek-Osh road. The project site is located between Bishkek and Kara-Balta cities and between 15.9 km and 61 km of the Bishkek-Osh road. At km 61, at the roundabout, the Bishkek-Osh road turns to south, and marks the end of the project.

8. The terrain across the site can be classified as a foothill plain with a height of 750-800 m above sea level and steadily gaining altitude southward toward the Tian Shan mountain range.

9. The road reconstruction should meet the laws and legislation of the Kyrgyz Republic. This reconstruction will bring the geometric parameters of the road to the required category, becoming a 4-lane highway for the entire length to Kara Balta, increasing the radii of curvatures in the plan and longitudinal profile.

10. In order to improve drainage system, the work includes reconstruction of the degraded culvert system and addition of new cross drainage structures. Existing bridges are being totally replaced. Finally, and it will be constructed more than 64 km of sidewalks and six underground pedestrian passages.

11. Environmental impact resulting from the rehabilitation of the Bishkek-Osh road is minimal, since most of the construction work is carried out along the existing right-of-way. The project includes a number of related activities, such as the development of borrow-pits, operation of the asphalt plant, crushing and screening plant, construction of work camps and warehouses of the contractor, etc.

12. The environmental impact includes:

- (i). noise impact, as well as vibration, which is particularly important within localities near the Project road and in the areas where sensitive recipients are located, such as schools, hospitals, mosques, etc.
- (ii). Impact to the air;
- (iii). Impact to water courses and rivers;
- (iv). Impact resulting from sourcing of aggregates in borrow-pits;
- (v). Impact on soil and vegetation, including tree stands near the Project road, due to site clearing work;
- (vi). Impact resulting after bridge rehabilitation works;
- (vii). Impact of asphalt production plants and aggregates crushing plants;
- (viii). Impact of workers camps.

13. Due to the serious resettlement issues and the need to address them before commencement of construction period, such a sequence of construction works was planned, where the works primarily covered those areas where there are no or there are minor resettlement issues.

Table 1 Road sections where the construction work was carried out in 2017

Section No.	Start of the section, km	End of the section, km	Length of the section, km
1	15.900	21.300	5.400
2	35.500	40.580	5.080
3	45,600	51,600	6.000
4	54.200	59.350	5.150

Таблица 2 Road sections where the construction work was begin in 2018

Section No.	Start of the section, km	End of the section, km	Length of the section, km
5	21+300	35+500	14+200
6	40+580	45+600	5+020
7	51+600	54+200	2+600
8	59+350	60+926	1+576

14. According to the Terms of Reference, the road pavement will be designed for an initial design life of 10 years with structural overlay options for 15 and 20 years of design life.

2.2 Project Contracts and Management

Table 3 Project Contracts and Management

Project	Central Asia Regional Corridor 3 (Bishkek-Osh Road) Improvement Project Phase 4
Contractor	China Railway No.5 for Component 1 implementation
Road section:	15.9 km – 61 km, the overall length is 45.1
Donor:	Asian Development Bank.
Contract Sign Date:	28/03/2017
Executive Agency	Ministry of Transport and Roads of the Kyrgyz Republic
Notice to Commence	03/04/2017
Completion Date	April 02, 2020.
Time for Completion – Days	2 years 4 month
Extension of Time – Days	-
Defect Liability Period – Days	365
Contract Amount	USD 70,239,899.29
Minimum Amount of Interim Payment USD (3%)	USD 2,107,196.97
Total Amount of Advance Payment	Maximum 20% of the Accepted Contract Amount less Provisional Sums
Amount of Performance Security	%20 of Accepted Contract Price

Amount of Third-Party Insurance	500,000 USD per occurrence with the number of occurrence unlimited
Periods for submission of insurance a) evidence of Insurance b) relevant policies	14 days 14 days
Delay damages for the Works	0.05% of the Accepted Contract Amount for each lot, which is in delay, per day in USD
Maximum amount of delay damages	10% of the Accepted Contract Amount
Repayment Amortization of Advance payment	10%
Limit of Retention Money	10% of Accepted Contract Amount
Percentage of Retention	5% of Value of Works certified for Payment

Contractor's Organization Chart

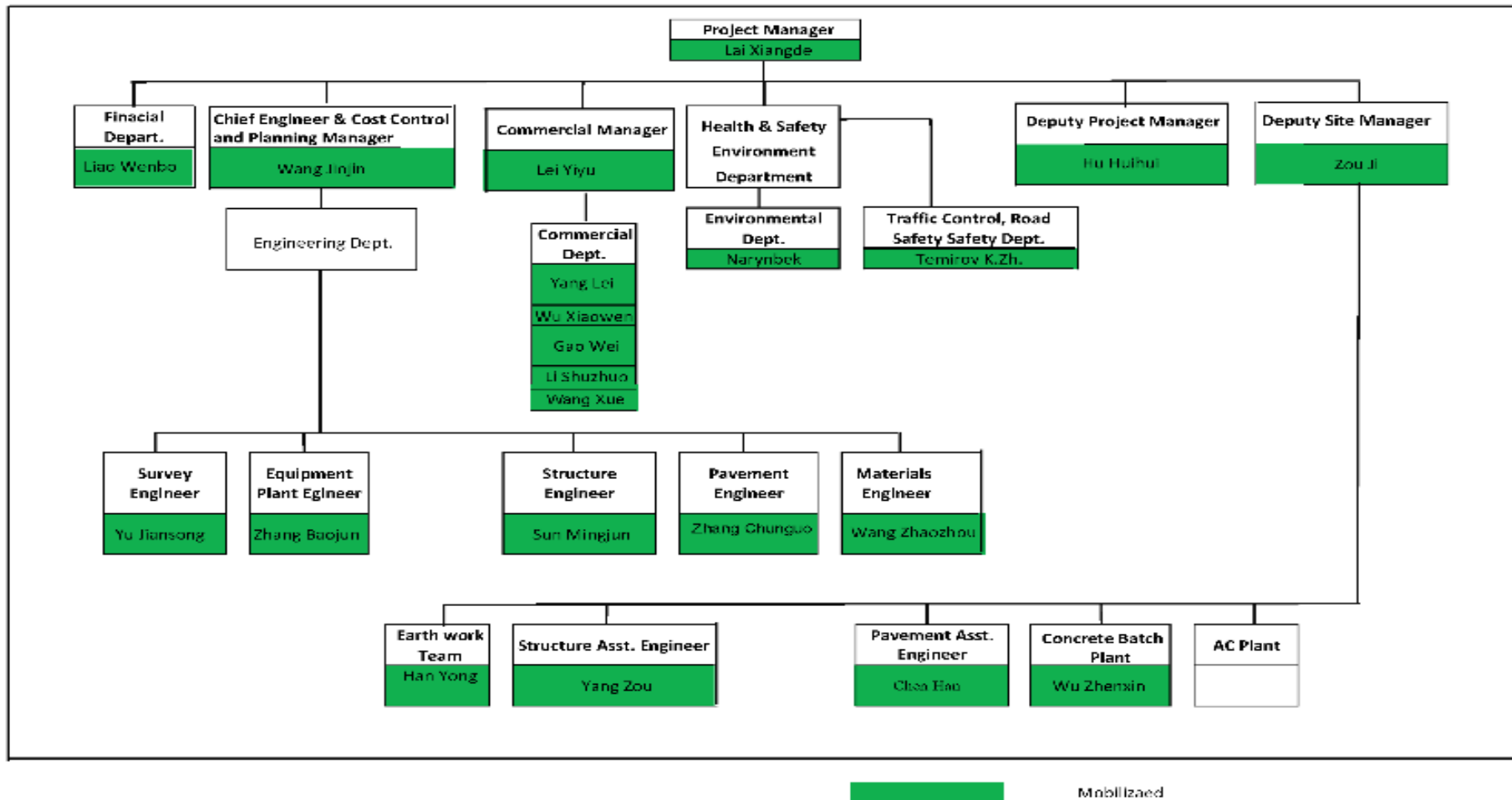


Figure 2 Project Organization Structure and Management

Table 4 List of Consultant's staff

INTERNATIONAL STAFF	
male	
Resident Engineer-Team Leader	Mahmut Nedim Altay
Pavement and Materials Engineer	Mohammad Arifur Rahman
Contract Specialist	Ali Yagci
Social Development and Resettlement Specialist	Md. Nurul Hoque
Environment Specialist	Dr. Md. Mohsin Almaji
PBM Engineer	Seyfettin Akinci
NATIONAL STAFF	
male	
Highway Engineer/Deputy Team Leader	Shekeev Omurbek
Social Development and Resettlement Specialist	Dolgov Yirii
Road Safety Specialist	Begaliev Soolot
Materials Engineer	Alymkulov Ulanbek
Quality Assurance Engineer	Mamyrkulov Sabyrbek
Structural Engineer	Turdubaev Shekirbek
Inspector	Choibekov Bazarbek
Surveyor	Bokonbaev Turatbek
Surveyor	Sagynbaev Damir
Surveyor	Baiguchukov Manas
Quantity engineer	Alymkulov Zhoodar
Quantity engineer	Abylbekov Abai
laboratory assistant	Zholdoshev Ruslan
laboratory assistant	Minazarov Dyikan
laboratory assistant	Abdykapparov Damir
Estimator – quantity engineer	Kozevnikova Setlana
Translator	Glinov Vyacheslav
Office manager	Kalil uulu Suiun
female	
Environmental Specialist	Tatiana Volkova

2.2.1 Scope of work

15. Project design meets standards of Technical Category 1-b (main urban arteries) with the following geometrical attributes:

- Number of lanes – 4 and 6
- Lane width –3,5 - 3,75m;
- Carriageway width – 2x7,5;
- Shoulder width – 3,75m
- Carriageway shoulder breakpoint stabilization – 0,75m
- Axle design weight – 11,5 tones.

16. Over the entire project site, the two layers of the asphalt-concrete pavement (14 cm thick) will be placed, the upper one is 5 cm and the lower one is 9 cm thick, with underlying black crushed stone course (9 cm thick).

17. The RoW (Right of Way) width is 50 - 60 meters. The design provides for construction and repairing works for the following service facilities and the communications as well as work scope.

Pavement Construction Quantities:

- Wearing course 5cm thick – 46,692m³;
- The same in junctions 5cm thick – 4,169m³;
- Binder course 9cm thick – 84,046m³;
- The same on junctions 9cm thick – 7,505m³;
- Asphalt treated base course 9cm thick – 86,906m³;
- Base 15cm thick – 157,257m³;
- Sub-base 28cm thick – 448,920m³;
- Asphalt-concrete course on sidewalks 4cm – 9,754m³;

In addition, it also includes:

- Bridge repairs with widening– 6 units;
- Minor engineering structures – 548 units;
- For water diversion, reinforced-concrete chutes – 77661 linear meters;
- Intersections and junctions – 477 units;
- The project provides for parking lots next to market places – 4 units;
- Auto pavilions – 114 units;
- Sidewalks – 81 285 meters;

Road Safety Features:

The Project provides for repair of 4 existing pedestrian underground crossings and construction of 6 new pedestrian underground crossings;

- Marker posts – 515 units;
- Metallic foot-walk guard rails – 3980 linear m;
- Parapet guard rails – 1158 units;
- Median railings – 14 887 units;
- Retaining walls – 3669 linear m;
- Street lights – at 26 intersections.

Reconstruction of the Utilities

- VL-10kV – 43 poles
- VL-0,4kV – 166 poles
- Communication lines –507 posts
- Lighting poles – 2190
- Gas casings – 650 linear m

Vegetation Planting

18. Almost throughout the entire length of the project road there are trees planted in both sides, most of which will be cut down in course of the road rehabilitation. In total, 5363 trees will be cut down. As compensation, planting of hardwood seedlings will be required instead of cut down trees.

Land Acquisition and Resettlement Plan

19. The project site passes through densely populated areas. The project provides for the demolition of commercial services, pavilions, billboards, service stations, gas stations, fences and

houses that will be affected by the project, in the sections of road widening and sections of construction of new sidewalks. A Resettlement Plan was drawn up, based on which compensation was paid to 106 affected persons, including owners and users of land, business owners, tenants and employees.

2.2.2 Main Organizations Involved in the Project

20. Relevant organizations involved in the project are:

- Ministry of Finance of the Kyrgyz Republic (MOF)
- Ministry of Transport and Roads of the Kyrgyz Republic (MoTR)
- the Implementing agency; and its Investment Projects Implementation Group (IPIG)
- State Agency for Environmental Protection and Forestry (SAEPF)
- State Inspectorate for Environmental and Technical Safety (SIETP)
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance under the Ministry of Health (DDPSSSES)
- *MoTR* is responsible for the development of the transport sector, and is the Executing Agency (EA) of the project. MoTR has overall responsibility for the planning, designing, implementation and monitoring of the project. IPIG, works under the MoTR and implements the tasks assigned by MoTR.
- *The Ministry of Finance of the Kyrgyz Republic* is the authorized state body responsible for coordinating actions with ADB and other donors on external assistance issues.
- *The State Agency for Environmental Protection and Forestry* is responsible for the state policy in the environment sector and coordinating the actions of other state bodies on these issues. Its functions as follow:
 - environmental policy development and implementation;
 - state ecological expertise (Environmental Impact Assessment);
 - issuance of environmental licenses
 - ecological monitoring;
 - provision of environmental information services
- *The State Inspectorate for Environmental and Technical Safety works in accordance with the Law "On the procedure for conducting inspections of entrepreneurship entities", and carries out supervision procedure on compliance with:*
 - I. environmental legislation, established rules, limits and norms of environmental management, standards of emissions and discharges of pollutants and waste disposal in the environment;
 - II. industrial safety requirements during construction, expansion, reconstruction, technical re-equipment, operation, conservation and liquidation of hazardous production facilities;
 - III. the requirements of land legislation;
 - IV. safety requirements for operation of equipment and facilities for the storage and distribution of petroleum products and gases, cranes;
 - I. Requirements of safe operation rules in construction, installation and maintenance of electrical networks and electrical equipment.
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance supervises the sanitary and epidemiological welfare of the population, the safety of goods, products, environmental objects and conditions, and the prevention of harmful impact of environmental factors on human health.

Table 5 Main Organizations involved in the project Environmental Safeguards

No	Organization Name	Role in project	Responsible person for the environmental safeguards	Contacts
1	ADB	Donor		
2	ADB's Kyrgyz Republic Resident Mission (KYRM)	Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	MoTR & it's IPIG	Implementing & Executing Agency	Asylbek Abdygulov	asylbeka@piumotc.kg
4	Temelsu	Consultant	Tatiana Volkova	volkova_ti55@mail.ru
5	The limited liability company "China Railway Engineering Group No. 5»	Contractor's Env. Specialist	Narynbek Myrsaliev	narynbek_m@mail.ru
6	LLC Diversified manufacturing company "Maksat" -	Subcontractor, relocation of water-electric communications	-	
7	LLC "Intelservice"	Subcontractor, Relocation of underground cables	-	
8	LLC "Telstroy"	Subcontractor, Relocation of underground cables	-	
9	LLC Kyrgyz branch of "Kaganat Group"	Subcontractor, work on installing chutes;		
10	LLC «Svyaz proect»	Subcontractor, Cable relocation, sewer		
11	LLC "Ishmer"	Subcontractor, work at the Ak-Suu bridge		

2.3 Project Activities during Current Reporting Period

2.3.1 Road Construction Works

21. During the winter period of 2020, the Contractor carried out road maintenance work, including removal of snow, winter slippery, and icing. These works were aimed to ensure uninterrupted and safe traffic.



Figure 3 Winter road maintenance

22. Since February 2020, work has been started on removal of old asphalt and unsuitable soil, levelling and compacting the carriageway, preparing it for laying asphalt at sections 5 and 6 in the villages of Sokuluk, Aleksandrovka, Sadovoye, Belovodskoye.



Figure 4 Removal of old asphalt and unsuitable soil

23. Since May 2020, asphalt is being laid at sections 5 and 6.



Figure 5 Asphalt laying

24. Inspectors monitored the performance of site trials on materials of wearing course, asphalt treated base and roadbed.

25. Inspection of materials was carried out in the laboratory and on the site to verify compliance with technical specifications. In the laboratory, tests were carried out on concrete, unbound materials and asphalt treated base materials that will be used for pavement layers. At the site, the contractor conducted density and humidity tests to check the compaction ratio. At the site, asphalted layers cores were collected for laboratory tests on: density, compaction ratio and void ratio. Asphalt concrete was collected during placement to check compressive strength at various temperatures, the content of bitumen and granulometry.

26. In October 2019, the materials control team conducted on-site and laboratory studies to estimate the number of passes required to achieve correct compaction of several materials with vibration and without vibration. These studies were necessary to evaluate and correct the price analysis provided by the contractor, which requires additional costs associated with the vibration-free compaction procedure.



Figure 6 Sampling for asphalt quality control

27. On the road construction sites, dust control (water sprinkling) works are regularly carried out.



Figure 7 Water sprinkling at the road

28. Also, in the reporting period parapets were installed and strengthened. The soil accumulated near the parapets during the winter period was cleaned out and removed in a timely manner.



Figure 8 Installation of “New Jersey” type median parapets

29. Work on construction of culvert chutes was also carried out.





Figure 9 Construction of culvert chutes

30. Construction works were continued at the Jantai canal, including the expansion of the canal bed and bank protection works.



Figure 10 Bridge construction at the Jantai canal

31. Currently, the construction of five underground passages is almost completed, and the contractor plans to complete the furniture of underground passages by the end of 2020. Adults and children are currently crossing the road through some underground passages, and temporary lighting has been installed for this purpose. Considering that during the construction of underground pedestrian crossings, the presence of a close occurrence of the underground water level was noted, the Consultant constantly monitors these objects for detection of flooding, in order to be able to eliminate it in a timely manner.



Figure 11 Construction and rehabilitation of underground passages

2.3.2 Borrow-pits

32. Originally, 6 sites were allocated for borrow-pits at the project road. The Contractor has obtained all necessary permits for the borrow-pits mining from local authorities, the State Committee for Industry, Energy and Subsoil Use (SCIESU) and the State Agency for Environmental Protection and Forestry (SAEPF). Table 6 provides main information about 6 borrow-pits.

Table 6 Information about borrow-pits

No. of borrow-pit	Stocks (m ³)	Area (ha)	Distance from the road (km)
No.1 «Jelamysh»	242 093	10,77	11
No.2 «Sokuluk -1»	185 000	9,02	3,3
No.3 «Sokuluk -2»	185 000	9,7	7,7
No.4 «Ak-Suu -1»	210 000	11,89	2,5
No.5 «Ak-Suu -2»	850 000	68,19	8,6
No.6 «Kara-Balta»	275 323	73,70	3,5
No.7 «SAZ»	197 600	5,2	14.5

33. Sokuluk-1, Sokuluk-2, Ak-Suu-1, Ak-Suu-2, and Kara- Balta borrow-pits are belonging to self-reclaimed category, since they are located in floodplains of rivers that are subject to mudslides.

34. Currently, work at the Kara Balta borrow-pit has been suspended due to completion of works in the Jayil district.

35. During the conclusion of agreement with Krupskoy aiyl okmotu, on the territory of which Sokuluk-1 and Sokuluk-2 borrow-pits are located, it turned out that when allocating areas for these borrow-pits, the borrow-pit area was overlapped with the area of neighboring adjacent borrow-pit, and

therefore mining of Sokuluk-1 borrow-pit was refused, and the area of Sokuluk-2 borrow-pit was reduced to 1.73 ha.

36. After testing the quality of the material of Sokuluk-2 borrow-pit by Quality Assurance engineer and Materials engineer, it was found that the material contains a large amount of humus and it cannot be used for the construction of the roadbed, in this regard, the mining of Sokuluk-2 borrow-pit was suspended. For mining, a Saz borrow-pit was proposed, located on the area of the Sazskiy ayyl of the Sokuluk district.

37. Currently, the development of Jelamysh, Ak-Suu1, and Kara-Balta borrow-pits is completed. In 2020, it is planned to continue the development of Ak-Suu 2 and Saz borrow-pits.

38. Ak-Suu 2 borrow-pit. During the reporting period, the development of this borrow-pit continued. A large amount of inert materials has been accumulated at the borrow-pit; they are being taken out to the construction of the road and to the production site for processing.



Figure 12 Works at Ak-Suu 2 borrow-pit

2.3.3 The area of production site

39. The production site is located at the territory of Sokuluk ayil okmoty, close to Ak-Torpok village. The area belongs to the industrial and communal zone. Total land area - 10 hectares.



Figure 13 Production site

40. The following buildings and structures are located in the site: console control building, stone-crushing plant (SCP), asphalt-bitumen plant (asphalt plant), concrete batch plant (CBP), silos - bin for cement, workers camp, office, eating room, car parking; parking for trucks; storage for fill materials - crushed stone and sand; transformer substation, platform for the installation of garbage containers, concrete cesspit pit for sewage.

Stone-crushing plant

41. Raw materials for production of crushed stone and sand is delivered to the stone-crushing plant from Ak-Suu 2 borrow-pit by dump trucks. Crushing of raw material is carried out in crush lines of crushers. Water sprinkling is done during the crushing, which reduces the emission of inorganic dust by 70%. Sieving is carried out with washing - on vibrocribble screens, transportation is carried out by belt conveyors. During the reporting period, the stone crushing plant often failed and did not work. There was no dusting during operation. The contractor's personnel involved in the operation of the stone crushing plant are provided with personal protective equipment (helmets, respirators, headphones).



Figure 14 Stone-crushing plant

42. Sand after sieving and washing distributed to spiral classifier, where it is mixed, dehydrated and delivered to the finished product storage. Crushed stone and sand are stored separately in storages.

Site for production of reinforced concrete products

43. The area of site for production of reinforced concrete products is specified for the production of reinforced concrete products. At the production sites welded rebar meshes and carcasses are manufactured. Cleaning of rebar from cinder and corrosion is performed on special equipment, followed by straightening and cutting to rods of a given length. The bending of the rods is made on the bending machine, where they are given shape. Metallic dust is released during the operation of straightening-cutting machine. Separate rods are connected into grids and carcasses by electric arc welding. Pollutants released during the use of electric arc welding are: welding aerosol, manganese oxides, hydrogen fluoride.



Figure 15 Site for production of reinforced concrete products

Concrete Mixing Plant (CMP)



Figure 16 Concrete mixing plant

44. Production of concrete is carried out on HZS50 concrete mixing plant. Capacity is 50 m³/h. Crushed stone and sand is delivered by motor transport. There are storages for reception and storage

of crushed stone and sand at the plant. From the intake hopper crushed stone and sand are delivered to the indoor storage by belt conveyor. There is a separate compartment for sand and crushed stone in the storage. From the storage through the passageway sand and gravel are delivered to the receiving section of concrete mixing plant. The receiving section is equipped with separate storage bins for crushed stone and sand.



Figure 17 Concrete mixing plant

45. Production of concrete involves mixing of cement, sand, crushed stone and water in the necessary proportions. Raw materials for preparation of concrete mix are: cement, ballast, (sand and gravel mix), sand, crushed stone, water.

46. The technological production process of concreted structures includes preparation of concrete mixture and its transportation to construction site, delivery, distribution, laying and compacting it in structure, curing of concrete in setting process.

Asphalt-bitumen plant



Figure 18 Asphalt-bitumen plant

47. The plant for the production of asphalt-bitumen mixture with a capacity of 280-320 tons/hour is installed at the territory of the enterprise.

48. The technological production process of asphalt-bitumen mixture is carried out according to the following production scheme and have four sections; bin-loading; dosing, mixing and delivering of finished products.

49. Mineral materials delivered to the plant are unloaded to special sites. Bitumen is delivered to the asphalt mixture production plant in a solid state, on barrels and stored on a specially designated site. Asphalt mixture is prepared in asphalt mixers of forced batch mixing with preliminary drying,

heating and dosing of mineral materials. The finished asphalt mix is loaded into dump trucks and delivered to road sections.



Figure 19 Loading asphalt mix in dump trucks

50. A large number of barrels with bitumen were delivered to the production site, which are partially placed on a specially prepared site. A large number of barrels are placed on the ground covered with waterproofing material.



Figure 20 Barrels of bitumen on a specially equipped site

51. A large number of empty bitumen barrels and metal lids are accumulating at the production site. The Engineer instructed the Contractor to dispose of the unused empty barrels.



Figure 21 Empty barrels of bitumen under prepared for the disposal

Workers camp

52. Due to the proximity to the main gas pipeline, in 2018 the relevant services have repeatedly issued orders to relocate the residential sector outside the sanitary protection zone. Once the land plot owner's (Emergency Control Ministry) permission was obtained, in 2019 the residential area was

relocated to a safe distance and placed on the east side of the industrial zone in accordance with safety requirements and hygiene standards.



Figure 22 Workers camp

53. The worker's camp accommodates 50 people. Each room is designed to accommodate two workers. The camp has a kitchen room, equipped place for eating, shower rooms, washbasins, toilets.

54. In the new camp sewage water is discharged into an existing septic tank by pipelines.

55. After a verbal warning about the need for a fire shield equipment, 2 shields were installed in the camp.



Figure 23 Fireshield equipment at the camp

56. A warning was also given to remove gas cylinders from the kitchen and place them in metal cabinets on the street, but this warning was ignored. After repeated notifications from the Consultant, the contractor closed the kitchen, leaving only the dining room. Food delivery for workers is carried out from the base of the village of Belovodskoye or Sokuluk



Figure 24 Place for eating and gas cylinders in the kitchen

57. Water supply at the production site is carried out from an existing well on the basis of the Agreement No.38 "On the provision of the well for temporary use" dated October 10, 2017. The well

was restored to supply the plant with water. The contractor laid a pipeline to the plant. Currently there are no problems with water on the territory of the production site.

2.3.4 Workers Camp at the villages of Sokuluk and Belovodsk

58. At the worker camps in the villages of Sokuluk and Belovodsk, household waste and sewage from septic tanks are disposed in a timely manner, and all protective measures for sanitary hygiene are observed. On the territory of the camps, all necessary maintenance measures are observed. Periodic checks are carried out on compliance with environmental requirements. However, both in Sokuluk and in Belovodsk, during the repair and other works, waste is accumulated which are not always taken out in time, as a result it creates a mess. On the part of the Consultant, additional instructions were given about the need to clean work places every day after the completion of work.

2.3.5 Tree management

59. During the reporting period, single trees were cut down in agreement with the services for the relocation of electric and telephone poles in the village of Belovodskoe (section 6). These trees are not additional and are included in the previously determined number of trees falling under forced cutting, but due to the presence of electrical networks next to them, cutting was not possible. Permits for their demolition were obtained at the beginning of 2019. All trunks and roots were removed to places designated by local authorities.

60. Seedlings planted in autumn and spring (600 pieces) are in satisfactory condition. However, with the hot weather, seedlings need systematic regular watering.

61. A letter was sent to the contractor about the need to conduct regular watering every 3 days.



Figure 25 Tree cutting in the village of Belovodskoe





Figure 26 Planting and care of seedlings

2.3.6 Information about personnel

62. During contract negotiations with the Contractor on the personnel structure for the Bishkek-Kara-Balta road rehabilitation project, an agreement was reached according to which:

- the structure of management and engineering personnel:
 - 60% - foreign personnel,
 - 40% - local personnel;
- the structure of the workers:
 1. 20% - foreign personnel,
 2. 80% - local personnel.

63. The number of Contractor's personnel from January to June is shown below (excluding subcontractor personnel).

January	75 people;
February	75 people;
March	294 people;
April	265 people;
May	241 people;
June	281 people.

64. The number of personnel in the second half of the year should be from 250 to 300 (excluding subcontractors ' personnel).

2.4 Description of Any Project Changes

65. Initially, 6 areas were allocated for borrow-pits on the project road. In particular, Sokuluk-1 and Sokuluk-2 borrow-pits were intended for mining during work on the territory of the Sokuluk district. The contractor has obtained all the necessary permits for the development of these borrow-pits from local authorities: The State Committee for industry, energy and subsoil use and The State Agency for environmental protection and forestry.

66. However during the conclusion of agreement with Krupskoy aiyl okmotu, on the territory of which the Sokuluk-1 and Sokuluk-2 borrow-pits are located, it turned out that when allocating areas for these borrow-pits, the borrow-pit area was overlapped with the area of neighboring adjacent borrow-pit, and therefore development of the Sokuluk-1 borrow-pit was refused, and the area of the Sokuluk-2 borrow-pit was reduced to 1.73 ha.

67. After testing the quality of the material of the Sokuluk-2 borrow-pit by the Quality Assurance engineer and Materials engineer, it was found that the material contains a large amount of humus and it cannot be used for the construction of the roadbed, in this regard, the development of the Sokuluk-2 borrow-pit was suspended. For construction works it was necessary to find a new borrow-pit.

68. It was proposed the Saz borrow-pit, located on the territory of the Sazskiy ail okrug of the Sokuluk district, and the development of which was carried out during the work on the territory of the Sokuluk district.

2.5 Changes to Project Design and Construction Method

69. In 2017, the ADB has suspended earth works at section 3 in the village of Petrovka until the winter season, due to complaints received from the local residents about vibration coming from construction equipment during compaction of materials with vibration, in particular, from rollers. Complaints were received from 17 homeowners of Central'naya street.

70. The British company MRCL conducted a study of the intensity and transmission of vibration. The purpose of the study was to monitor vibration in different places to determine the magnitude of the risk depending on the distance from the source of vibration and the condition of the house along the 45.4 km of the Bishkek-Kara-Balta road. The focus was on quantifying the impact of compaction using vibration on nearby homes and recommending practical mitigation measures to avoid these impacts and reduce the risk of damage.

71. This study was the starting point for the implementation of the vibration impact contour map.

72. Additional data was also obtained from field measurements of seismic vibrations arising during the operation of the rollers. The literature related to the existing methods for calculating vibrations ranging from preparation and compaction of soil was examined, and there was also documented data, on which threshold levels of vibration damage were established for classes of buildings with low, medium and high risk, on the basis of internationally accepted standard. A vibration modelling report was drawn up.

73. In special vibration study, various options of mitigation were proposed, in particular limitation for vibratory rollers on pre-determined road sections with high vulnerability residential houses and usage of deep trenches to protect vulnerable structures from vibrating compaction. Although the report contains useful limiting parameters for visible and structural damage due to soil vibration, IPIG and EPTISA have found that the most effective and least costly solution was to exclude compaction with vibration at all road sections where there are residential houses.

74. EPTISA's consultant (materials engineer) conducted a study to verify the possibility of compaction without vibration. The study was conducted on fill materials, unbound materials and binders.

75. The study has shown that it is possible to compact available materials without vibration using a reasonable number of passes.

76. It was decided not to use vibration in the future during the compaction of materials. Soil compaction works as directed by the ADB (letter dated 23.05.2018) were carried out without vibration at all road sections, except for section km 15.9-19.8 km where there are no settlements. These changes in the accepted construction methods resulted in an increase in the cost of the work performed.

77. In 2019, the Consultant developed a mix design of wearing course that meets the requirements of local standards and the British standard. This mix design also includes the noise reduction requirements recommended in the "Noise Modeling report".

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General description of environmental safeguard activities

78. According to the results of the reporting period, July-December 2019, a corrective action plan was drawn up on four non-compliance with environmental requirements (1. Dust formation during the operation of a stone crushing plant; 2. Non-compliance with safety precautions - a gas cylinder is installed on a road roller; 3. Non-compliance with safety precautions - non-compliance with safety precautions by workers 4. Accumulation of garbage on the territory of the base in the village of Belovodskoye.). At the time of preparation of the report for the period January-June 2020, all non-compliances were eliminated by the Contractor.

79. During the reporting period, regular visual monitoring on compliance with environmental requirements in course of construction works at all road sections was carried out from January to May by the EPTISA's and from June 1st Temelsu's national environmental specialists as well as the environmental specialist of the Investment Project Implementation Group (IPIG) under the MoTR KR, as well as the Contractor's environmental specialist. The current epidemiological situation with COVID-19 did not affect to the visual monitoring, additional measures were taken by the consultant and the contractor based on the recommendation of the COVID-19 Republican Headquarters, in particular, the requirement for the consultant's and contractor's experts to wear masks, the presence of a sanitizer, and etc.

3.1.1 Road construction works

80. Given the epidemiological situation in the country associated with the spread of COVID-19, not all specialists and workers from China arrived in Kyrgyzstan, therefore, in the first half of 2020 the road construction work was carried out partially. In previous periods dust generation has the main impact on the environment during the earthworks. In the reporting period, isolated facts of dust generation were noted, about which the Contractor was immediately warned. At the construction sites water-sprinkling of the road including the shoulders was carried out from 7 am to 8 pm without a lunch break. The contractor has drawn up a schedule for water sprinkling with an interval between watering 30 minutes. Considering the small scope of work on the road and the fact that several watering machines worked on the construction sites, which had time to water the road in time, dust generation was rarely observed at the construction sites. No complaints were received from the local residents or local government authorities during the reporting period.

81. Construction work carried out by the contractor continued despite the "acute" situation in the Kyrgyz Republic with COVID-19. If we consider the pace of construction compared to the construction season in 2019, there was a strong slowdown in construction work due to the absence of the contractor's foreign engineering personnel on the site due to the closure of borders and the suspension of international passenger flights between China and Kyrgyzstan. Part of the local workers preferred to stay at home until the epidemiological situation returned to normal. On July 4, 2020, a charter flight from China was planned to deliver 36 engineers of the contractor, however, due to the worsening situation with COVID-19 in the Kyrgyz Republic, this charter flight was canceled at the initiative of the Chinese side.

82. Since the beginning of the quarantine imposed by the Government of the Kyrgyz Republic in March 2020, the contractor has taken additional measures to prevent the spreading and protection of personnel working at the project site, in particular:

- the contractor purchased protective masks, which are issued to employees. Introduced requirements for the mandatory wearing of masks on the site;

- every day, a temperature check is carried out, and a survey of the health of workers before starting work;
- constant disinfection of the camp area with a special solution is carried out, as well as daily cleaning and disinfection of the contractor's camp office premises, sanitizers for the office staff have been purchased;

83. The foreign consultant staff was unable to return to the project site due to the “difficult” epidemiological situation in the country. The team leader - resident engineer is working remotely. The local staff of the consultant was also provided with the necessary equipment (protective masks, sanitizers in the office, constant cleaning and disinfection of the office premises). Based on the recommendations of the COVID-19 Republican Headquarters, the consultant recommended, if possible, limit meetings with a large presence of people. And whenever possible, the discussion is conducted "on-line" or via e-mail



Figure 27 Increased dust generation at construction sites



Figure 28 Water sprinkling at the road construction sites

84. Culvert chutes were constructed at the prepared road sections.



Figure 29 Construction of culvert chutes

85. Previously installed chutes are overgrown with grass and covered with construction waste. A letter was sent to the contractor to eliminate the identified violations.



Figure 30 State of the previously installed chutes

86. During the reporting period, work was carried out on the installation and strengthening of parapets on the road.

87. During the monitoring it was found that on the road shoulders in the village of Petrovka, starting from km 47, where work was carried out to strengthen the parapets, there were not removed earth waste, stored in small heaps. And due to atmospheric precipitation, the waste was washed away and polluted the surrounding area. A letter was sent to the contractor indicating the time frame for fixing this violation.



Figure 31 Collection and removal of earth waste from the road shoulder

88. Within the established time frame, earth waste was collected from the road shoulder and taken out.

89. Then the soil accumulated near the parapets during the winter period was cleaned and removed in a timely manner.



Figure 32 Cleaning parapets from accumulated soil over the winter

90. Construction works were continued at the Jantai canal, included the expansion of the canal bed and bank protection works.



Figure 33 Violation of safety precautions during the construction of the bridge at the Jantai canal

91. During bridge construction works at the Jantai canal (KM 24+110), safety violations were noted. In the presence of special means for working at height - ladders, workers worked without using them. The contractor was notified of the need for constant monitoring of safety precautions and awareness-raising among the workers.

3.1.3 Borrow-pits

92. Currently, the development of Jelamysh, Ak-Suu1, and Kara-Balta borrow-pits is completed. In 2020, it is planned to continue the development of Ak-Suu 2 and Saz borrow-pits.

93. According to the regulation on reclamation of lands disturbed in the process of subsoil use, it is necessary to conduct the handover of reclaimed lands. This handover is performed by the Commission for the handover of reclaimed lands, appointed by the local state administration, on the territory of which these lands are located.

94. Currently, prior to the handover, the following work should be carried out on these borrow-pits: Jelamysh borrow-pit. At present, gullies and steep slopes on Jelamysh borrow-pit can pose a danger to the population and pets.



Figure 34 Jelamysh borrow-pit before development





Figure 35 Jelamysh borrow-pit now

95. Currently, a borrow-pit reclamation plan has been drawn up and agreed. It is necessary to begin work on the borrow-pit reclamation, according to this Plan.

96. Ak-Suu 1 borrow-pit. During the period of floods on the Ak-Suu river, the borrow-pit was restored. Reclamation is not required if unauthorized development is not carried out.

97. Kara-Balta borrow-pit. During the period of floods on the Kara-Balta river, the borrow-pit was partially reclaimed. But the main area of the borrow pit is subject to reclamation, which includes leveling all the irregularities in the area of the development.



Figure 36 Kara-Balta borrow – pit now

98. Ak-Suu 2. Ak-Suu 2 borrow-pit is located in the riverbed of the AK-Suu river and covers a large area. It is necessary to carry out reclamation work on the worked-out area of the borrow-pit.

99. In June, reclamation works were started at the borrow-pit, including leveling all the unevenness in the area of the workings carried out.



Figure 37 Reclamation works at the Ak-Suu 2 borrow-pit

100. Before March 27, 2020, the contractor was required to submit the schedule for the reclamation of the above borrow-pits and handing-over them to the Commission, but so far, the schedule has not been submitted. The contractor explains that, given the situation with COVID-19 in the territory of the Kyrgyz Republic, the initial plans for reclamation work are disrupted, it is planned to start reclamation work by the end of this year after the situation with the virus improves.

3.1.4 Production sites

101. During the monitoring carried out in the reporting period, no specific violations were identified. Considering that the territory of the plant is located in the bed of the Ak-Suu river on a pebble foundation, which is characterized by a high filtration coefficient. To avoid soil contamination in the area of the production site with bitumen and other chemical reagents that can get into the underground aquifer, the contractor has been given clear instructions on the need to immediately clear areas of bitumen and other chemicals spills. This issue is constantly monitored by the Consultant.

102. During the plant operation, all the soil around the tanks with chemical substances should be protected from leaks and spills of hazardous materials by an impermeable protective coating.

103. The contractor was advised to protect the soil around the tanks with chemical substances from leaks and spills of hazardous materials with an impermeable protective coating. These recommendations were taken into account and implemented by the Contractor.



Before



After



Figure 38 Impervious protective coating around the chemical storage tanks

104. Barrels with bitumen are placed on a special concrete platform, part of the barrels are placed behind the platform on the ground, covered with a special anti-filtration coating - a special plastic film.



Figure 39 Barrels of bitumen on a special site

105. The concrete mix is prepared at a concrete mixing plant delivered to the construction site in finished form. Transportation of the concrete mix from the place of preparation to the place of unloading or directly to the concreting section is carried out by concrete mixers.

106. Washing of concrete mixers is performed on a specially designated site. Wash water is discharged into a special three-section sump. Then the wash water, after settling, is used for watering the area of the working site.



Figure 40 Washing of concrete mixers



Figure 41 Water sprinkling of the area of the production site with wash waters

107. Despite regular training conducted by the Contractor's safety specialist, violations/non-compliance with safety precautions were observed at the site for manufacturing of concrete products when lifting and moving weight suspended with a travelling crane hook. The issue of compliance and observance of safety precautions will be monitored by the Consultant on an ongoing basis. During the July the Contractor's safety specialist will conduct additional lectures for the staff.



Figure 42 Safety violations



Figure 43 Lack of personal protective equipment of workers at the site of production of reinforced concrete products when lifting and moving loads

108. Previously, it was found that the territory of the production site was littered with household waste. Letter was sent to the Contractor. Currently the territory is cleared of household waste.



Before

After

Figure 44 Household waste on the territory of the production site

3.1.5 Tree management

109. It was planned to start planting of seedlings instead of cut down trees in the autumn 2018, but, given that no culverts and sidewalks were completed at any construction site, no seedlings were planted. The contractor was repeatedly warned about the need to start planting seedlings.

110. Eptisa's environmental specialist together with the Contractor's environmental specialist are examined seedlings in several nurseries located in the Chuy region. The most high-quality

and suitable seedlings were seedlings of the Peasant Farm "Pitomnik Zherdevykh". Contractor was repeatedly informed orally and in writing about the need to start planting seedlings in the near future. The first 300 seedlings were planted at the village of Petrovka section 3 in autumn 2019.



Figure 45 Seedlings planted in autumn 2019

111. In the spring of 2020, another 300 seedlings were planted on section 3.

Table 7 Seedlings planted in autumn 2019 and spring 2020

Name	Number (pcs)	Unit cost (KGS)	Amount
White-trunked birch	220	300	66000
Salix matsudana	85	300	25500
Salix (yellow-leaf)	125	300	37500
Catalpa	70	300	21000
White poplar	100	30	3000
Total:	600		244500

112. Seedlings planted in autumn and spring, in the amount of 600 pieces, with the hot weather, need systematic regular watering. The first year after replanting is critical for seedlings, this is due to severe trauma to the root system, the destruction of its active suction part. Therefore, the main focus should be on the care of the tree's roots. It is very important during the formation of active roots, as well as the growth of foliage and shoots, to regularly water the seedlings.

113. To provide the seedlings with the right amount of moisture, watering should be done regularly every 3 days. Before the first watering, it was necessary to make holes near each seedling. A letter was sent to the contractor about the need to make regular watering every 3 days. Despite constant reminders to the Contractor, the seedlings were not watered regularly. Given the hot weather, some of the seedlings began to dry out. The consultant carried out a preliminary calculation of the survival rate of seedlings, which was 95%. Given that the planting of seedlings is not completed, the numbers on the survival rate of seedlings will change and the final percentage of survival will be summed up in 2021. The contractor was given an additional explanation that, in accordance with the terms of the current contract, all dried seedlings will be restored at the expense of the contractor

114. Additional letter was sent to the contractor with instructions for regular watering of the seedlings.



Figure 46 Seedlings before regular watering



Figure 47 Seedlings after watering

3.1.6 Construction waste

Construction waste

115. During the road construction works, waste in the form of old reinforced concrete products, asphalt, and unsuitable soil is accumulated on the road. Removed old asphalt, in agreement with the local administration, is taken out and laid on the specified sites, village roads. Soil unsuitable for construction is also taken to sites provided by local authorities. The issue of crushing old asphalt to the size of 20x20 remains unsolved. The old asphalt is placed on village roads and then the contractor crushes it with a bulldozer and grades it on site. However, this work is not always carried out in a timely manner, which leads to misunderstandings among local residents.

116. Given the fact that the quality of filling is not always satisfied with local residents, the administration of the villages of Alexandrovka and Sokuluk allocated site for storing unsuitable soil and removed asphalt for further use if necessary. On the part of the consultant, before storing unsuitable soil, the site was inspected for its "suitability", namely, the distance from water, the absence of a close occurrence of ground water or wetlands. According to the results of the inspection the designated area for temporary storage of unsuitable soil meets these requirements.



Figure 48 Storage of unsuitable soil for further use in Alexandrovka village



Figure 49 Storage of unsuitable soil for further use in Sokuluk village

117. At the request of the owners, partially, asphalt and unsuitable soil are taken out to private sites oriented/intended for commercial use. The owners level the private plots themselves. Leveling of streets after filling is performed by the Contractor's bulldozer and loader, but the quality of filling and leveling does not always meet the established requirements. Unbroken pieces of asphalt remain on the roadsides. The contractor is given instructions to correct and bring into proper state the identified defects.

118. Old asphalt in the village of Belovodskoe was taken out to the streets specified by the local administration. Recently, removed old asphalt in village of Belovodskoye was taken out on the road in Komsomolsky Lane, Kalinina street and to the road in the field and to the road leading to the Kyrgyz feed enterprise. In many places on the roadsides, asphalt is not levelled, there are large pieces of asphalt, what is unacceptable. It is necessary to carry out additional work on crushing and levelling of the laid old asphalt.





Figure 50 Removal of old asphalt to the streets of the village of Belovodskoe at the request of residents and local administration

119. A letter was sent to the Contractor about the need to remove pieces of asphalt from the roadside, to level all placed asphalt, and level the road on Kalinina Street.

120. In May, the road on Kalinina Street was filled and levelled.



Figure 51 Kalinina street after levelling

121. Old asphalt is not taken out to the wetlands. A letter was received from the ADB stating that in order to avoid harm to the health of local residents, it is prohibited to transfer old asphalt to local residents for their own use. This requirement has been met and will be monitored in the subsequent construction season.

122. During the monitoring, it was found that the excavator operating in the village of Belovodskoe (section 6) on the removal of old asphalt was in poor technical condition, emitting black smoke, causing harm to health, the driver of the excavator, the population, and the environment.



Figure 52 Unsatisfactory technical condition of the excavator

123. In this regard, the work of the excavator was suspended until it was restored to regular technical condition.

124. Production waste is also generated during the road construction. These are used engine oil, old tires, empty barrels of bitumen. According to the Contractor, the used oil is reused during the operation of certain types of equipment, the rest is handed over to a local company for further processing or recycling, the barrels will be partially sent to the plant for reuse, some of the barrels will be used for the needs of the Contractor, the remaining ones will be scrapped.



Figure 53 Storage of empty bituminous barrels and lids



Figure 54 Barrels prepared for scrapping

3.1.7 Workers camps in the villages of Sokuluk and Belovodskoe

Workers camps

125. In March, during the monitoring the state of the camps where workers lived, it was found that the camp in the village of Belovodskoye was in an unsatisfactory condition. A large amount

of production and household waste has accumulated on the territory. The house where the workers will live is also in an unsatisfactory condition. A letter was sent to the contractor demanding to bring the territory to the proper condition. The territory was partially cleaned, but it is necessary to fill the surface of the territory with crushed stone in order to eliminate dirt and puddles.



Figure 55 The territory of the camp in the village of Belovodskoye after the winter period

126. Repair workshops are covered with metal sheets to hide the disorder inside.



127. There are also oil spills on the ground.



Figure 56 The territory of the camp in the village of Belovodskoye after the winter period

128. It was recommended to remove all waste from the camp as soon as possible. Bring the house of workers in proper condition. The fill the area of the camp with crushed stone, hold conversations with the workers living on the territory of the camp about compliance with the rules of hygienic maintenance of the territory of residence, taking into account the fact that despite the garbage cans located next to the house of residence, household garbage is thrown out on the territory.

129. Currently, in the territory of the camp in the village Belovodskoe, used wheels were taken out, household waste was partially removed. The workshops were cleared and all unused materials were partially removed.



Before



After



Before

After

Figure 57 Camp territory in Belovodskoye village after cleaning

130. In the residential camps of Sokuluk and Belovodskoye villages, household waste and sewage from septic tanks are removed in a timely manner, all protective measures for sanitary hygiene are observed. On the territory, all necessary maintenance measures are also observed. Compliance audits are periodically conducted. However, both in Sokuluk and in Belovodskoye, during repair and other work, waste is generated, which is not always taken out on time and creates a mess. It is necessary to clean workplaces every day after the end of work.

3.2 Monitoring of construction sites

Table 8 Monitoring of construction sites in January 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	23.01	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction works at the Jantai canal
2	30.01	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Visit of the production site. Violations were found at the site of production of reinforced concrete structures.

Table 9 Monitoring of construction sites in February 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	06.02	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Meeting with the Contractor. Discussion of environmental issues.
2	13.02	Volkova T.	Monitoring of construction sites	In the village of Petrovka, starting from 47 km, where work was carried out on strengthening parapets, there are not removed earth waste, piled

				up in the form of small heaps on the road shoulders. A letter was sent to the Contractor.
3	12.08	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction works at the Jantai canal
4	18.02	Volkova T.	Monitoring of construction sites	Demolition of trees in the village of Belovodskoe
5	20.02	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Soil waste is removed from the road shoulders
6	26.02	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction works at the Jantai canal. There is a problem with compliance with safety precautions during the construction of the bridge. A letter was sent to the Contractor about the detected violation.

Table 10 Monitoring of construction sites in March 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	03.03	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Non-removed waste on the area of the Belovodskiy base, a letter was sent to the Contractor about the detected violation.
2	05.03	Volkova T.	Monitoring of construction sites	Barrels of bitumen were delivered to the area of the asphalt plant. Meeting with the Contractor. Discussion of environmental issues.
3	10.03	Volkova T.	Monitoring of construction sites	Visit of the Kara-Balta borrow-pit. Non-compliances during the development of the borrow-pit, particularly non-observance of safety precautions
4	12.03	Volkova T.	Monitoring of construction sites	Visit of the Ak-Suu 2 borrow-pit. Non-compliances during the development of the borrow-pit particularly non-observance of safety precautions
5	13.03	Volkova T.	Monitoring of construction sites	Visit to the proposed sites for storing old asphalt in the village of Alexandrovka.
6	16.03	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with	The issue of non-removed waste from construction sites on the road. A letter

			Contractor's environmental specialist	was sent to the Contractor about the detected violation.
7	18.03	Volkova T.	Monitoring of construction sites	The excavator operating in the village of Belovodskoe on removal of old asphalt, was in unsatisfactory technical condition, throwing out black smoke, causing harm to health, the driver of the excavator, the population, and also the environment. A letter was sent to the Contractor about the detected violation.
8	20.03	Volkova T.	Monitoring of construction sites	Monitoring of the production site. There is a lot of waste.
9	23.03	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Monitoring of construction sites. Together with the Contractor's environmental specialist
10	26.03	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction works at the Jantai canal

Table 11 Monitoring of construction sites in April 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	08.04	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Monitoring of construction sites. Together with the Contractor's environmental specialist
2	10.04	Volkova T.	Monitoring of construction sites	Site visit to the asphalt plant and Ak-Suu2 borrow-pit.
3	16.04	Volkova T.	Monitoring of construction sites. Together with Contractor's environmental specialist	The removed asphalt is taken out for road filling. A large amount of asphalt was taken out on the road and not levelled. A letter was sent to the Contractor about the detected violation.
4	21.04	Volkova T.	Monitoring of construction sites	Monitoring the condition of previously constructed culverts and trays. Violations were detected. A letter was sent to the Contractor about the detected violation.
5	23.04	Volkova T.	Monitoring of construction sites	Seedlings are poorly watered. It is necessary to make regular watering of seedlings every 3 days. A letter was

				sent to the Contractor about the detected violation.
6	28.04	Volkova T.	Monitoring of construction sites	Trees are being cut down.
7	30.04	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Construction of culvert chutes. Violation of safety precautions during the installation of chutes.

Table 12 Monitoring of construction sites in May 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	05.05	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Monitoring of the bridge construction works at the Jantai canal
2	08.05	Volkova T.	Monitoring of construction sites	Monitoring of storage sites for old asphalt and unusable soil
3	12.05	Volkova T.	Monitoring of construction sites	Monitoring of the production site territory, site of production of reinforced concrete structures.
4	14.05	Volkova T.	Monitoring of construction sites	Cleaning the parapets from accumulated dirt.
5	18.05	Volkova T.	Monitoring of construction sites	Choosing a storage location for old asphalt in Sokuluk village
6	20.05	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction works at the Jantai canal
7	22.05	Volkova T.	Monitoring of construction sites	Monitoring the construction of culverts
8	26.05	Volkova T. Myrsaliev N.	Monitoring of construction sites. Together with Contractor's environmental specialist	Monitoring of the bridge construction works at the Jantai canal
9	28.05	Volkova T. Myrsaliev N.	Совместный выезд с лабораторией ОсОО «ПрофиЛаб»	Measuring noise and vibration levels

Table 13 Monitoring of construction sites in June 2020

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	01.06	Volkova T.	Monitoring of construction sites.	Monitoring the construction of culverts

		Myrsaliev N.	Together Contractor's environmental specialist	with	
2	02.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. Collecting information for the semi- annual report
3	04.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. The problem of watering seedlings
4	08.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. The problem of construction waste on the road.
5	11.06	Volkova T.	Monitoring construction sites	of	Monitoring of the production site territory.
6	15.06	Volkova T.	Monitoring construction sites	of	The monitoring of storage places of old asphalt
7	17.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. Construction of culverts
8	22.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. Visit to the production site where plants are located.
9	26.06	Volkova T.	Monitoring construction sites	of	Monitoring of all construction sites. Collecting information for the semi- annual report

3.3 Issues Tracking (based on list of non-compliance)

Issues tracking (based on list of non-compliance)

131. During the reporting period, in case of detection of environmental issues, an orally warning was initially given to the Contractor with an indication of the deadline. In case the Contractor did not eliminate the identified environmental issues, a letter was sent. Basically, all issues were fixed in a timely manner.

Table 14 Report of non-compliance with the environmental requirements (January- June 2020)

No	The issue of non-compliance, defined by the Consultant (e)	CEMWP Number and date of notification the Consultant	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Consultant Inspection	Status as of June 2020 (Date and Detail)
1	Waste disposal issue	CEMWP № 2.6.2. EP-CR5-HN-1329, dd 13.02.20r	Annex 5 Waste Management Plan	In the village of Petrovka, starting from 47 km, where work was carried out on strengthening parapets, there are not removed earth waste, piled up in the form of small heaps on the road shoulders. Exposed to atmospheric precipitation, waste is washed away and pollutes the surrounding area	The waste was removed in due time	During monitoring, it was found that all the waste was removed. Closed	<u>28.02.20</u> New waste has not been formed
2	Disposal of household waste on the road shoulder	CEMWP № 2.6.2. EP-CR5-HN-1334, dd 26.02.20	Annex 5 Waste Management Plan	On the road shoulder, starting from km 15.9 to km 20.0, a large amount of household waste has accumulated, mainly plastic bottles and plastic bags, which exposed to the wind go to the surrounding agricultural fields and polluting them.	The waste was removed in due time Contractor's letter CAREC – G0254 dd 09.03.2020	During monitoring, it was found that the waste was removed Closed	

No	The issue of non-compliance, defined by the Consultant (e)	CEMWP Number and date of notification the Consultant	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Consultant Inspection	Status as of June 2020 (Date and Detail)
3	Disposal of household waste on the road shoulder	CEMWP № 2.6.2. EP-CR5-HN-1340, dd 04.03.20	Annex 5 Waste Management Plan	A large amount of production and household waste has accumulated on the territory of the village of Belovodskoe.	The waste was partially removed within the established time frame Contractor's letter CAREC – G0257 dd 11.03.2020	During monitoring, it was found that the waste was removed. Closed	<u>11.05.2020</u> Waste was removed
4	Seedling panting	CEMWP № 2.5.1 EP-CR5-HN-1353, dd 16.03.20	Annex 10 Tree Management Plan	About the need for planting seedlings in prepared areas	300 seedlings were planted	On March 25-26, 300 seedlings were planted on the territory of Petrovsky a/o Closed	300 seedlings were planted
5	Disposal of household waste on the road shoulder	CEMWP № 2.6.2. EP-CR5-HN-1354, dd 17.03.20	Annex 5 Waste Management Plan	A large amount of production and household waste has accumulated on the territory of the village of Belovodskoe	The territory is partially cleared from production and household waste.	Closed	<u>28.05.2020</u> Waste removed
6	Air pollution	CEMWP № 2.2.1 EP-CR5-HN-1356, dd 18.03.2020 CEMWP 2.9.3	Annex 9 Air Quality Management Plan Annex 3 Plan for Safety, Health and Hygiene	During the monitoring in the village of Belovodskoye at section 2-2, it was found that the excavator working on removing old asphalt was in unsatisfactory technical condition, emitting black smoke, and causing harm to health of the excavator operator, the community, and the environment.	The excavator was stopped and sent for repair Contractor's letter CAREC – G0271 dd 20.03.2020	excavator doesn't work. Another excavator is used in the work Closed	<u>23.03.2020</u> excavator doesn't work.
7	Borrow-pits	CEMWP № 2.2.1 EP-CR5-HN-1359	Annex 14 Borrow-pit Management	It is necessary to carry out reclamation of used borrow pits, to hand over the reclaimed		Not resolved	<u>30.06.2020</u>

No	The issue of non-compliance, defined by the Consultant (e)	CEMWP Number and date of notification the Consultant	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Consultant Inspection	Status as of June 2020 (Date and Detail)
		dd 20.03.2020	Plan	land to the Commission. Submit to Eptisa the schedule of reclamation works on the above-mentioned borrow-pits and handing over to the Commission.			No response was received from the contractor Given the situation with COVID-19 in the Kyrgyz Republic, the implementation of reclamation work is delayed
8	Old asphalt disposal	CEMWP № 2.6.1. EP-CR5-HN-1391, dd 13.04.2020	Annex 7. Old Asphalt Management Plan	Removed asphalt is taken out to fill roads. A large amount of asphalt was taken out on the road and not levelled.	Roads filled with old asphalt were levelled	<u>Closed</u>	<u>31.05.2020</u> Roads filled with old asphalt were levelled
9	Seedling planting	CEMWP № 2.5.1 EP-CR5-HN-1401 dd 23.04.20	Annex 10 Tree Management Plan	It is necessary to conduct regular watering of seedlings every 3 days	The contractor started watering the seedlings. Contractor' letter CAREC – G0314 dd 27.04.2020	<u>Closed</u>	<u>31.05.2020</u> Watering of seedlings isn't conducting re
10	Health and safety hazards:	CEMWP 2.9.3 EP-CR5-HN-1412 dd 30.04.20	Annex 3 Plan for Safety, Health and Hygiene	There is a hole on the left side of pedestrian crossing in the Ak- Suu river (south side). The bridge is dangerous for pedestrians	Contractor's letter CAREC-G0318 dd 04.05.20 The issue is under control	<u>Closed</u>	<u>31.05.2020</u> Pit on the bridge is filled
11	Compliance with safety precautions by contractor's workers		Annex 3 Plan for Safety, Health and Hygiene	There have been cases of contractor workers being careless about using protective equipment	The contractor's safety specialist constantly monitors and talks with workers about the need	<u>Partially implemented</u>	This issue is constantly monitored in conjunction with

No	The issue of non-compliance, defined by the Consultant (e)	CEMWP Number and date of notification the Consultant	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Consultant Inspection	Status as of June 2020 (Date and Detail)
					to use personal protective equipment for their safety		the contractor's safety specialist
12	Seedling planting issue	CEMWP № 2.5.1 0541BOC3/55-3357-00001 dd 01.06.20	Annex 10 Tree Management Plan	It is necessary to make regular watering of seedlings every 3 days	The contractor started watering the seedlings. Contractor's letter CAREC – G0355 dated 04.06.2020	Closed	<u>30.06.20</u> Seedlings are watering

3.3.1 Overview and description of issues tracking during the current period

132. During the reporting period, EPTISA's (construction supervision Consultant) and from June 1st Temelsu's national environmental specialist conducted regular monitoring of compliance with the requirements of the EMP and CEMWP during construction work on the Bishkek-Kara-Balta road section. The specialist visited the site more than 40 times. Given the epidemiological situation in the country, site visits were limited. Some of the visits were combined with the Contractor's environmental specialist. The CEMWP prepared by the contractor was used as a checklist.

133. Environmental specialists of IPIG MoTR conducted separate inspections focusing on specific issues, such as safety during construction work, local complaints, and seedling planting.

Issues tracking

134. During the reporting period, the main focus was on the following issues:

- Disposal of construction waste;
- The violation of safety precautions, occupational safety and health;
- Planting seedlings;
- Violations during construction of bridges and culverts;
- Borrow-pit mining and management;
- Material's manufacturing plant (bitumen leakages);
- Disposal of old asphalt;
- Monitoring of environmental components.

Summary of issues tracking

135. During the reporting period, if environmental issues were identified, the Contractor was initially warned verbally, and if the issue was not resolved within the specified time frame, letters were sent, including the definition of mitigating measures that should be applied to solve the identified issue.

136. In January - June 2020, 11 non-compliance issues were reported and 10 of them were resolved during the reporting period. The issues noted in the letters are mostly repeated in each reporting period. The contractor should consider the shortcomings in managing these issues in the further work.

Table 15 Summary of Issues Tracking Activity for Aurrent Period

Non-Compliance	January-June 2020	Total
Total	11	11
Significant & Resolved	10	10
Unresolved	1	1
Pending	1	1
Chronic and Unaddressed	0	0
Minor Issue	0	0

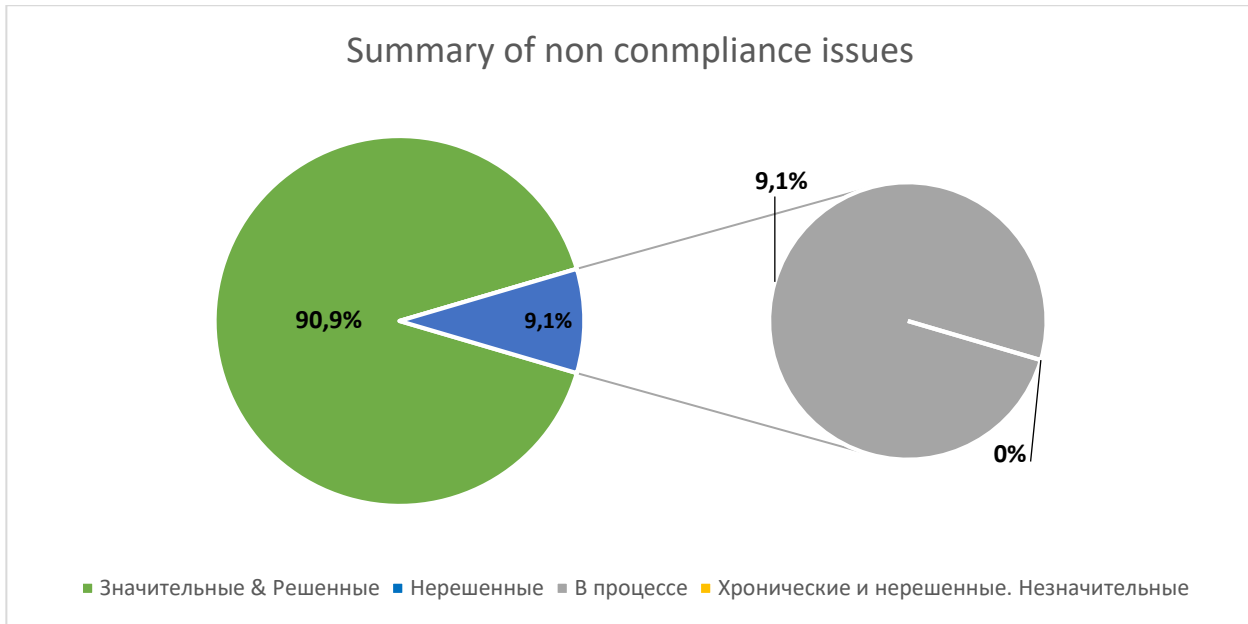


Figure 58 Summary of non-compliance issues

137. The number of non-compliance letters in 2020 was less than in 2019. This is due to the fact that most of the identified non-compliance was discussed verbally with the Contractor. The implementation date was discussed, and if the violation was not resolved on time, a letter was sent. The reason for the large number of non-compliance issues is that, although a specific issue was resolved within a specified period, a similar non-compliance was repeated in the future, such as, for example, in relation to the management of production waste, safety violations during construction work.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

138. In order to monitor environmental components such as air quality, surface water quality, noise and vibration impact during construction at the Bishkek –Kara-Balta road section, in 2020 requests were sent to several laboratories, and rates for laboratory studies were analyzed.

139. In 2019, the consultant transferred the environmental monitoring functions to the Contractor. Based on the analysis of the cost of laboratory studies and the Consultant's recommendations, the following laboratories were selected:

- **Air Quality:** Environmental Monitoring Department of SAEPF under the KRG;
 - **Surface Water Quality:** Laboratory of the Department of disease prevention and state sanitary and epidemiological control of the KR;
 - **Noise impact:** Private laboratory LLC «ProfiLab»;
 - **Vibration impact:** Private laboratory LLC «ProfiLab».
- After conclusion of the agreements, applications were submitted for the measurement of vibration and noise levels at construction sites and for sampling of water and air.

140. Given the epidemiological situation in Kyrgyzstan, the laboratories were quarantined and did not work.

141. The laboratory of the Environmental Monitoring Department of the Chui-Bishkek Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic did not work due to the worsening of the COVID-19 situation. In this regard, the air quality and surface water quality were not determined.

142. The private laboratory "Profilab" started working on May 26. On May 28, the "Profilab" laboratory conducted monitoring of noise and vibration at construction sites on the road.

4.1.1 Monitoring of noise and vibration





Figure 59 Measurement of vibration and noise

143. On May 28, 2020, a specialist of the ProfiLab operational laboratory (Arzykulov Zh.T.), in the presence of the Contractor's environmental specialist (N. Myrsaliev) and the Consultant's environmental specialist (T. Volkova), measured the noise and vibration levels at the road construction sites.

Measuring name	instrument	Number	Verification certificate		Trusted before
			Number	Date	
Ecophysica – 110A		AB 130044	1086	08.05.2020	08.05.2021

144. Reference documentation on measurement methods, in accordance with which measurements were made: GOST 31191.1-2004 "Vibration. Measurement of general vibration and assessment of its impact on humans. Requirements for measurements at workplaces".

145. Reference documentation for standards: Sanitary standards 2.2.4. / 2.1.8.566-96 "Industrial vibration in premises, residential and public buildings". Sources of physical factors and their characteristics: Traffic flow and the work of the Contractor's equipment. Environmental conditions: temperature: 25C, humidity: 35%, atmospheric pressure: 696 mmHg.



Figure 60 Monitoring of noise and vibration in the village of the Sokuluk



Figure 61 Monitoring of noise and vibration in the village of the Aleksandrovka

Table 16 The Protocol of vibration level measurement

No.	Location. Mode of operation.	Type vibration	of Axis	Sound level (dBA)
		Transport		
	Sokuluk village, next to the cafe "Safize" km 26 + 920, south side of the road, 15 m from the road. Latitude: 42°51'24"; longitude: 74°17'4".			
1	Excavator is operating	+	X	109
			Y	108
			Z	106
2	Excavator is not operating	+	X	94
			Y	92
			Z	93
	Sokuluk village, next to tire repair shop, km 26 + 920, north side of the			

	road, 15 m from the road. Latitude: 42°51'24"; longitude: 74°17'4"			
3	Excavator is operating	+	X	112
			Y	110
			Z	109
4	Excavator is not operating	+	X	93
			Y	91
			Z	92
	Sokuluk village, next to the car wash station "4 seasons" km 26 + 965, north side of the road, 15 m from the road. Latitude: 42°51'27"; longitude: 74°17'9".			
5	Excavator is operating	+	X	108
			Y	106
			Z	105
6	Excavator is not operating	+	X	93
			Y	92
			Z	90
	Alexandrovka village, Lenina street, km 31 + 780, north side, 10 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".			
7	Grader is operating	+	X	96
			Y	95
			Z	94
8	Grader is not operating	+	X	79
			Y	78
			Z	76
	Aleksandrovka village, next to the "Bereke" store, km 31 + 730, north side of the road, 10 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".			
9	Grader is operating	+	X	97
			Y	96
			Z	94
10	Grader is not operating	+	X	80
			Y	79
			Z	78
	Aleksandrovka village, next to the "Agro-Vet" store, km 31 + 730, south side of the road, 5 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".			
11	Grader is operating	+	X	98
			Y	97
			Z	96
12	Grader is not operating	+	X	79
			Y	80
			Z	78

	Gavrilovka village, next to the kindergarten, km 21 + 510, north side of the road, 15 m from the road. Latitude: 42°51'54"; longitude: 74°24'1"			
13	Background vibration level	+	X	80
			Y	81
			Z	78

Conclusion based on the results of measurement: according to the results of instrumental measurements, the vibration level during the operation of the Contractor's equipment ranges from 94 dB to 112 dB, and when the equipment is off, it ranges from 76 to 94 dB. The background vibration is 81 dB.

146. Measurements were conducted in accordance with GOST 23337-2014. «Noise "Methods for measuring noise in residential areas and in residential and public buildings»

147. Reference documents for standards: Sanitary norms 2.2.4 / 2.1.8.562-96, "Noise at workplaces, in premises, in residential public buildings and on the territory of residential buildings." Environmental conditions: temperature: 25C; humidity: 35%; atmospheric pressure: 696 mmHg. Sources of physical factors: traffic flow and the work of the Contractor's equipment.

Table 17 Noise measurement protocol

No.	Location. Mode of operation.	Sound level. (dBA)
	Sokuluk village, next to the cafe "Safize" km 26 + 920, south side of the road, 15 m from the road. Latitude: 42°51'24"; longitude: 74°17'4".	
1	Excavator is operating	82 actual
		MPL 70
		12 dBA
2	Excavator is not operating	81 actual
		MPL 70
		11 dBA
	Sokuluk village, next to tire repair shop, km 26 + 920, north side of the road, 15 m from the road. Latitude: 42°51'24"; longitude: 74°17'4"	
3	Excavator is operating	80 actual
		MPL 70
		10 dBA
4	Excavator is not operating	76 actual
		MPL 70
		6 dBA
	Sokuluk village, next to the car wash station "4 seasons" km 26 + 965, north side of the road, 15 m from the road. Latitude: 42°51'27"; longitude: 74°17'9".	
5	Excavator is operating	79 actual
		MPL 70
		9 dBA
6	Excavator is not operating	78 actual
		MPL 70
		8 dBA

	Alexandrovka village, Lenina street, km 31 + 780, north side , 10 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".	
7	Grader is operating	85 actual
		MPL 70
		15 dBA
8	Grader is not operating	82 actual
		MPL 70
		12 dBA
	Aleksandrovka village, next to the "Bereke" store, km 31 + 730, north side of the road, 10 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".	
9	Grader is operating	84 actual
		MPL 70
		14 дБа
10	Grader is not operating	80 факт.
		MPL 70
		10. dBA
	Aleksandrovka village, next to the "Agro-Vet" store, km 31 + 730, south side of the road, 5 m from the road. Latitude: 42°51'15"; longitude: 74°13'37".	
11	Grader is operating	86 actual.
		MPL 70
		16 dBA
12	Grader is not operating	80 actual
		MPL 70
		10. dBA
	Gavrilovka village, next to the kindergarten, km 21 + 510, north side of the road, 15 m from the road. Latitude: 42°51'54"; longitude: 74°24'1"	
13	Background noise level	62

Conclusion on the results of measurements: at the time of the measurements, the background noise level at the measured points during the movement of vehicles near the road was 62 dB in the daytime. In the operating mode of the Contractor's equipment, the noise level exceeded the sanitary standard from 9 dBa to 16 dBa, with the equipment off, the noise level exceeded the sanitary standard from 6 dBa to 12 dBa.

148. In order to study the impact of noise on the local population and its mitigation measures, prior to the start of road construction work, a Noise Modeling was conducted according to the instructions of the ADB. One of the methods to reduce the negative impact of noise on the local community was noise-reducing asphalt. Currently, the project specialists have developed a mix design of noise-reducing asphalt for this project, which will be laid as wearing course in the roadbed.

4.2 Trends

149. During the construction period in the second half of 2020, it is planned to monitor the quality of atmospheric air, the quality of surface water, noise impact and, if necessary, vibration in the areas where construction work will take place.

4.3 Grievances of local residents

150. During the 2020 construction season, complaints were recorded from local residents regarding the impact of construction work on their life. There were 4 grievances received during the reporting period by IPIG, Eptisa's focal person or by the Project related Ayil Okmotu. All grievances have been reviewed and, at this time, there are no pending issues.

Table 18 Grievances of local residents

Table F-1: Summary of Inquiries and Grievances						
	Date	Name	Address	Complaint	Result	Comments
1	18.02.2020	Sadovoe ayil okmotu	Moskovskiy district, Sadovoe village	Cleaning the underpass and installing light in the underpass	Underground passage cleared and lighting installed in the underpass	Information given, case closed. 21.02.2020
2	16.03.2020	Aleksandrovk a ayil okmotu	Moskovskiy district, Aleksandrovk a village	Request for opening additional vehicle access on the road. At the intersection of the following streets: Frunze-Kalimova and Frunze-Zapadnaya.	The decision was made to open the streets	Information given, case closed. 20.03.2020
3	06.05.2020	Belovodskoe ayil okmotu	Moskovskiy district, Belovodskoe village	Parapet removal request on the Street Frunze 306, Belovodskoe village.	The request has been reviewed and a decision has been made to remove it.	Information given, case closed.
4	08.05.2020	Belovodskoe ayil okmotu	Moskovskiy district, Belovodskoe village	Request for an excavator to carry out the relocation of the water pipe.	The request is fulfilled and the excavator is provided.	Information given, case closed.

4.4 Summary of project outcome

151. When analyzing the results of the monitoring, it is necessary to take into account that the project road section is located in a densely populated area with a large flow of vehicles. Therefore,

when analyzing the environmental impact of construction work, it is necessary to take into account background levels.

152. Having analyzed the data of the monitoring results, it can be noted that, given the data of the background levels, construction work does not have a significant impact on the environment.

153. The issue of arranging and conducting monitoring is the insufficient number of laboratories in the region. To conclude agreements for monitoring environmental components, the same state laboratories are offered, which carry out both private and state orders, with an insufficient number of personnel. In this regard, it is necessary to arrange in advance each visit to the site for sampling and sometimes wait several weeks. It was easier to work with the private laboratory of Profilab LLC, whose employees were available when necessary.

154. An agreement was signed with the laboratory of the Environmental Monitoring Department of the Chui-Bishkek Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic to monitor the quality of atmospheric air and surface water, but due to the worsening of the COVID-19 situation it did not work. For this reason, monitoring of air quality and surface water quality has not been conducted.

4.5 Materials/Resources

155. The utilisation of electricity, water and any other materials were not included in the CEMWP for monitoring.

4.6 Waste Management

156. During construction, a large amount of waste is generated, including both construction and household waste which are promptly removed and disposed of.

Reinforced concrete construction waste

157. Reinforced concrete construction waste is generated during the dismantling of bridges and culverts.

158. Initially, construction waste was promptly taken out to the designated RMU-9 sites for the storage of old reinforced concrete products. With the increase of construction work, the allocated sites could not store all the waste, and there was a problem with determining where to store reinforced concrete waste. In the spring of 2019, together with the local authorities, places were determined for the placement of old reinforced concrete products. Removed unsuitable soil can be taken out to these places.

159. Representatives of the Aleksandrovsky ayil okmotu allocated place for the storage of construction waste at section 5 (Address: Aleksandrovka St. Kyrgyz ZBCHK contour 821).

160. During the reporting period, practically no reinforced concrete waste was accumulated. In this regard, there were no problems with its disposal.

Old asphalt

161. Since the beginning of road works there were issues with crushing old asphalt to the size of 20x20 when it was excavated. Considering the fact that there is no equipment in the villages

for leveling large pieces of old asphalt, there was a problem of removing the old asphalt that was not crushed to the filling of rural streets proposed by local authorities. After discussing this issue with the Contractor, on the part of the contractor, crushing / grinding of large pieces of old asphalt is carried out in the areas where it is backfilled, using a bulldozer and a grader during leveling work. Partially removed asphalt was taken out at the request of residents for the construction of embankments on private areas intended for commercial purposes. The owners leveled the private plots themselves. Asphalt was not taken to wetlands.

162. With the start of construction works at sections 5 and 6, representatives of local ayil aimaks and local residents approached us with requests to fill the internal roads of villages with old asphalt and thereby improve the infrastructure of these villages.

163. Together with representatives of ayil okmotu, at the request of local residents, the road in the new building "Komsomolskaya", Komsomolsky lane at section 6, was completely repaired. This road was unpaved and residents in winter and rainy seasons could not get to their homes by cars. Cars got stuck in the mud and couldn't get through.

164. The old asphalt was taken out to the Kalinina street. In many places on the road shoulders, the asphalt was not originally levelled, there were large pieces of asphalt.



Figure 62 Kalinina street before levelling

165. A letter was sent to the Contractor about the need to remove pieces of asphalt from the road shoulders, level all the filled-out asphalt, and level the road.

166. The Road on Kalinina street was backfilled and levelled.



Figure 63 Kalinina street after levelling

167. At section 5, the head of the local aiyl okmotu requested to fill the road in inside the municipal dumping of Sokuluk district, since due to bad roads, the official vehicles of the ME "Taza aiyl" could not enter the territory of the dumping in the winter season.



Figure 64 Removal of old asphalt to the territory of sections 5 and 6

168. The old asphalt was taken out on field road. Prior to the start of the work, approval was obtained with local authorities and environmental authorities for the use of removed asphalt on rural roads. Asphalt was not taken out to the wetlands.

169. More than 200 secondary roads were initially proposed by local authorities to fill rural streets with old asphalt. The Contractor's specialists conducted preliminary analyses of all the

proposed roads, considering their distance from the main road. Roads that did not meet these requirements were removed from the list.

170. Total volume of asphalt removed on sections 5 and 6 during the reporting period amounted to 4251 m³;

171. The contractor's specialist, Nursultan Alimbekov, is responsible for the disposal of old asphalt.

Table 19 List of streets backfilled with old asphalt in 2020

Location	District name	Name of person responsible	Approval date	Road width	Road length
Name of road				m	km
Komsomol'skaya	Moskovskiy district Belovodskoe a/o	Eshaliev K	18.03.2020 no. 02- 24.298	4	1.1
Kruskaya				4	0,8
Kalinina				4	0.7
ME «Taza Ayil»	Sokulukskiy district Krupskaya a/o	Edigeev Zh.	18.10.2019 no. 0216.1142	4	1.3
Lugovaya				4	0.8
Kirgizskaya				4	2.5

Unsuitable soil

172. Local ayil okmotu allocated places for storing unusable soil.

173. At section 5, the head of the Krupskiy okmotu allocated a place next to an apartment building on which there was a very large pit. This posed a danger to children and residents of the house. The pit was filled up and leveled.

174. Currently, backfilling and leveling of unusable soil is being carried out on the site allocated for storage.

175. At the request of the local ayil okmotu, sites for the removal of unsuitable soil were also allocated on section 6 in order to improve the infrastructure of these villages. The main part of the unsuitable soil was used to fill the pits located on the territory of the village of Belovodskoe.





Figure 65 Taken out of unsuitable soil to the area of sections 5 and 6

Table 20 List of places backfilled with unsuitable soil in 2020

Location Name of road	District name	Name of person responsible	Approval date
Kalinina	Moskovskiy district Belovodskoe a/o Sokulukskiy district Krupskaya a/o	Eshaliev K Edigeev Zh.	30.04.2019 no.02.443
Novaya			
Kurchatova			
Frunze			
Gurmanov	Сокулукский район Крупская ао	Эдигеев Ж.	18.05.2020 no. 0216.313
Kalinina			

176. The total amount of removed unsuitable soil at sections 5 and 6 during the reporting period amounted to 7037 m³.

Waste at the area of asphalt plant

177. During the production of asphalt, waste is generated on the area of the asphalt plant. Most of these are empty barrels of used bitumen. Empty barrels are stored in the plant area. Currently, a large number of used barrels and metal lids have been accumulated, which must be disposed of. According to the Contractor, empty barrels that have not been dented during use are returned to the bitumen manufacturer's plant. The remaining barrels are partially used during roads construction work, partially sold for scrap.

178. At present, barrels are prepared for disposal.



Figure 66 Empty bitumen barrels

179. In Belovodskoe, a large number of old car tires are stored on the territory of the base. It is necessary to take measures for their removal and disposal. If there is no possibility of recycling Contractor should sign a contract with a specialized company.



Household waste

180. Household waste is mainly accumulated in the workers' camps. Both solid and liquid household waste is accumulated.

181. Solid household waste consists of paper and plastic packaging materials, cardboard, dry waste, plastics and glass containers, as well as food waste, the latter pre-collected in plastic bags. Liquid household waste is waste water from residential premises and kitchens.

182. Solid household waste is collected unsorted in garbage containers with a capacity of 1m³ and is taken out weekly by Sokuluk and Moscovskiy utility plants, with which service contracts have been concluded. During the reporting period, about 281 m³ of solid waste was removed. Liquid household waste water accumulates in septic tanks, is pumped out to 3.5 m³ tankers owned by district waste transportation companies, and is taken to district wastewater treatment plants. During the reporting period 599 m³ of household waste was removed.

Table 21 Accounting list for disposal of solid waste and waste water from the territory of Sokuluk, Belovodsk camps and industrial sites for the first half of 2020

2020				
Locality	Month	Quantity		Cost, kgs
		solid	Liquid m ³	
Sokuluk	January	21 garbage bins	25 sewage tank loads	29650 kgs
Belovodskoe		28 garbage bins		9240 kgs

Sokuluk	February	21 garbage bins	25 p sewage tank loads	29650 kgs
Belovodskoe		18 garbage bins		5940 kgs
Sokuluk	March	18 garbage bins	21 sewage tank loads	25050 kgs
Belovodskoe		25 garbage bins.		8250 kgs
Belovodskoe			9 sewage tank loads	6300 kgs
Sokuluk	April	18 garbage bins	32 sewage tank loads	34400 kgs
Belovodskoe		28 garbage bins.		9240 kgs
Sokuluk	May	20 garbage bins	18 sewage tank loads	23300 kgs
Belovodskoe		29 garbage bins.		9570 kgs
Sokuluk	June	26 garbage bins	31 sewage tank loads	36750 kgs
Belovodskoe		29 garbage bins		9570 kgs
Belovodskoe			10 sewage tank loads as per agreement	7000 kgs
Total:		281 garbage bins	171 sewage tank loads	243910 kgs

4.7 Health and Safety

4.7.1 Workers health and safety

183. In March 2019, Contractor hired an OHS specialist. During the reporting period this specialist regularly monitors the occupational health and deal with improving the working conditions of workers of the Chinese Railway Engineering Group Company No. 5 in the Kyrgyz Republic.

184. The company's workers were regularly trained, instructed, and checked for knowledge. Inspection visits were conducted on a regular basis. Identified violations were eliminated on the spot. The constant and timely provision of workers with workwear and protective equipment is monitored.

185. Based on inspection visits, recommendations are given for improving the safety of work on construction sites and areas.

186. Induction briefings for newly recruited staff are conducted regularly. In total, 369 workers were given introductory training. And 365 workers got site briefings. Also, seminars were held at workplaces with workers to eliminate injuries. Within six months, no accidents were recorded with the participation of our workers at the production processes.

187. During the reporting period, there were several joint visits of the Eptisa's Local Environmental Specialist with the Contractor Safety Specialist. The briefing was carried out at the construction sites.



Figure 67 Site briefing

188. To comply with safety precautions, workers were provided with respiratory protection equipment (masks). However, there are cases when workers show careless use of protective equipment. The contractor's safety specialist constantly monitors and talks with workers about the need to use them.





Figure 68 Safety violations when moving loads with a crane and working at height

189. However, despite regular training of workers, construction supervision consultant regularly notes safety violations, especially during works at height, bridge construction, placing culverts. Violations were also noted when moving load by a crane. The workers were without personal protective equipment in the area of operation of the crane. These violations were noted, both at the site of production of reinforced concrete structures, and during the construction of bridges and culverts. A verbal warning was issued to the Contractor, however, violations continued.

190. The Contractor was recommended to check the knowledge of workers on occupational health and safety requirements and, if necessary, to re-instruct them.

4.7.2 Community health and safety

191. No community health and safety issues related to project activities were recorded during the reporting period.

Road Safety:

192. The road safety consultant regularly visits the Bishkek-Kara-Balta road section and conducts survey. According to the results of which letters were sent about non-compliance regarding the elimination of road safety issues. Constant site visits, monitoring of the condition of the carriageway, bypass roads, pedestrian crossings, underground crossings, etc. are carried out. The state of the relevant road signs, road markings, fences is also constantly monitored. To monitor road safety, a Traffic Management Plan was developed by the Contractor.

193. Statistics of all traffic accidents are not kept. Cases of road accidents caused by drivers themselves due to non-compliance with Road Safety requirements (in particular, speed limits, non-compliance with the distance between cars, etc.) are not considered. In other words, if information about accidents that occurred is not related to the conditions and consequences of the project is not considered and is not tracked. Only if the accident occurred due to the fault of the Contractor, the traffic police will send an official document about it. The causes of the accident will be studied and corrective measures will be taken. Accidents caused by insufficient measures taken by the Contractor were not recorded.

194. In order to ensure the safety of pedestrians, especially schoolchildren, the project provides for the repair of 4 existing and construction of 6 new underground passages on the road. Underground pedestrian passages are the safest option for pedestrian traffic. Currently, the

construction of five underground passages is almost completed. Adults and schoolchildren are currently crossing the road through underground passages.



Figure 69 Adults and schoolchildren use underground passages.

4.8 Trainings



Figure 70 Conducting safety training session for Chinese and local workers

195. There were no planned seminars during the reporting period. Eptisa's national environmental specialist regularly give consultations to the Contractor's workers. The Contractor's OHS specialist regularly conducted training sessions, briefings, and knowledge checks of the company's workers in the workplace.

5. FUNCTIONING OF THE CEMWP

5.1 CEMWP review.

196. The Construction Environmental Management Work Plan (CEMWP) is a form prepared by the Contractor based on the EMP and designed to encourage the Contractor to read the EMP and rethink the requirements that need to be met. The EMP describes the various activities proposed under this Project that are designed to prevent, minimize, or compensate environmental impacts that occur as a result of the Project. The mitigation measures provided in the CEMWP are sufficient, effective and acceptable. The CSC has prepared 14 annexes to the CEMP that address all major specific potential environmental impacts.

197. The Contractor's Environmental Specialist - Myrsaliyev Narynbek, implements the construction mitigation measures. The Contractor's compliance with environmental requirements is supervised by EPTIS's and since June 1, TEMELSU's environmental specialist, Tatyana Volkova. If any violations are detected, EPTISA notify the Contractor verbally or in writing on the need to eliminate this violation within the specified time frame.

198. During the reporting period, the main focus was on the following issues:

- Disposal of construction waste;
- Disposal of old asphalt;
- The violation of safety precautions, occupational safety and health requirements;
- Planting seedlings;
- Violations in the construction of bridges and culverts;
- Borrow-pit mining and management;
- Materials manufacturing plant (bitumen leakages);
- Monitoring of environmental components.

199. Currently, the main issue of CEMWP implementation remains planting seedlings instead of cut trees. Considering our climatic conditions, it is better to plant seedlings in the autumn, in November. But by the scheduled time, the Contractor had not completed construction of sidewalks and replacement of utilities on the site planned for planting seedlings. Only 600 seedlings were planted during the reporting period. Since the project road section passes through settlements where, given the road expansion, there is little space for planting new seedlings, and since construction work is planned to be completed in 2020, it is necessary to decide where and when the remaining seedlings will be planted. But at present, given the situation with COVID-19, construction work is not being carried out in full and the completion of construction has been moved to an indefinite period.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

200. The mitigation measures provided in the CEMWP are sufficient, effective and acceptable.

6.2 Opportunities for improvement

201. The contractor should be more responsible for environmental issues. Without constant reminders, to remove construction waste in a timely manner, carry out water sprinkling in construction sites, as well as in borrow-pits and stone crushing plants, take more responsible attitude to the safety and health of workers. The contractor should also not forget about the responsibility for planting seedlings, instead of cut down trees and regular maintenance of them.

7. SUMMARY AND RECOMENDATIONS

7.1 Summary

202. The issue of crushing old asphalt is resolved. Currently, the old asphalt is taken out for backfilling of rural streets. During the reporting period, streets in two ayil okmotu were backfilled. Since the villages do not have the necessary equipment for leveling large pieces of old asphalt, the Contractor level it with its own equipment. It was noted that the large pieces of broken asphalt remain on the shoulders of backfilled roads and the Contractor has to level the same section several times, spending additional time and fuel.

203. Construction reinforced concrete waste accumulated during the dismantling of bridges and culverts was initially taken out to the designated by RMU-9 places for the storage old concrete products in a timely manner. With the increase in the volume of construction work, there was a problem with determining where to store reinforced concrete waste. In the spring 2019, areas were found for storing construction waste. There were no problems with reinforced concrete waste during the reporting period.

204. The contractor does not supervise the structures that have already been built. Previously constructed side drains are overgrown with grass, and filled with construction waste. According to the contractor's explanation, the construction and installation of side drains has not been completed, and after the completion the side drains will be cleaned and, if necessary, additionally levelled

205. Several letters were sent to the contractor with instructions to begin reclamation of disturbed lands of the Jelamysh, Kara Balta, Ak-Suu1 borrow-pits and to hand them over to the commission. To date, the reclamation work has not started.

206. Dust control measures during the reporting period have been improved compared to previous reporting periods. This is probably due to the fact that there were fewer construction sites on the road compared to last year and watering machines managed to water construction sites in a timely manner.

207. Currently, planting seedlings instead of demolished trees remains a problem. The contractor underestimates the importance of this activity. To date 600 seedlings have been planted, at the same time, the contractor will have to speed up the work on planting seedlings at the end of 2020 (approximately in October – November of 2020).

208. The north side of the Sokuluk riverbed, where the bridge was built, has been cleared of construction waste, and the south side after completing the remaining bank protection works the Contractor will need to clear the riverbed of excess soil.

209. The south side of the AK-Suu riverbed, where the bridge was built, has not been cleared of excess soil. In 2020, construction work will continue, with the construction of retaining walls that serve as side walls at the entrance and exit of water from under the bridge.

210. In the course of the supervision of construction works, non-observance of the Safety and Health Measures by the workers were noted. These include: work at height without personal protective equipment and appropriate equipment, work under the boom of a crane, lack of protective helmets, insufficient number of special shoes when welding and others.

211. Despite the fact that, starting from April 2019, the Contractor was warned about the transfer of responsibility for laboratory monitoring of environmental components to him, the Contractor's management is not fully aware of this issue. During the reporting period, monitoring

of environmental components was not carried out in full, as state laboratories were quarantined from March 23 due to the worsening situation with COVID-19 and did not work until the end of June. Monitoring was carried out only for noise and vibration by the private laboratory "Profilab".

212. The problem of bitumen leaks at the plant virtually eliminated. The contractor purchased bitumen in metal barrels, which are placed on an impermeable base. At the same time, it was noted that the disposal of empty barrels from used bitumen is delayed. Also, the problem of recycling used tires, which have accumulated a large number at the Belovodskoe base, has not been solved.

7.2 Recommendations

213. Given the fact that during the construction period, the Contractor does not always eliminate the violations in the specified time, and EPTISA and now Temelsu is not able to take any measures other than suspension of work, it is necessary to take into account this experience and "include" additional impact mechanisms in the preparation of the contractor's draft contract in future projects in order to have more effective "leverage" to influence the Contractor to take the necessary environmental measures without repeated warnings and prevent negative consequences in advance.

214. OHS specialist should monitor all workplaces on a daily basis, especially on construction sites where bridges, underpasses, and culverts are being constructed. Currently, the monitoring is carried out insufficiently since there is no vehicle available for the specialist. Given that during the second half of 2020 and the contractor plans to involve more workers, the contractor will need to conduct additional lectures on the non-proliferation of HIV / AIDS for the new involved working staff.

215. Currently, the installation of culverts on some sections of the road has been completed, and it is necessary to speed up the construction of sidewalks on these sections so that it is possible to plant seedlings on these sections in the autumn.

216. The contractor should organize constant care and watering of seedlings. And assign responsible persons for care.

217. In 2020, it is necessary to reclaim the disturbed lands of the Jelamysh, Kara Balta, AK-Suu 1 borrow-pits and hand them over to the Commission.

218. The riverbeds of the Sokuluk and Ak-Suu rivers must be cleaned from excess soil.

219. The Contractor's environmental specialist should regularly monitor the condition of seedlings that have already been planted, and the condition of structures that have already been built, such as culverts and chutes. Also avoid filling the trunks of growing trees with unsuitable soil or old asphalt.

ANNEX 1 PBMC COMPONENT

Project Number: PBMC/BO/Phase 4/1
Grant: Credit 3056/grant 0366-KGZ:
Reporting period: January 2020 - June 2020

KYRGYZ REPUBLIC:

«REHABILITATION AND IMPROVEMENT OF THE CORRIDOR CENTRAL ASIAN REGIONAL DEVELOPMENT COOPERATION 3 (BISHKEK – OSH ROAD), PHASE 4, KARA-BALTA-SUUSAMYR (km. 61-129) »

(Funded by Asian Development Bank)

The Contractor: LLC «Mostdorstroy»

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Abbreviations

ADB	- Asian Development Bank
SEMR	- Semi-annual Environmental Monitoring Report
ES	- Environmental Specialist
GKR	- Government of Kyrgyz Republic
MoTR KR	- Ministry of Transport and Roads of the Kyrgyz Republic
PBMC	- Performance-based Maintenance Contract
PC	- Public Consultations
PIC	- Project Implementation Center
PMC	- Project Management Center
SEE	- State Ecological Expertise
GCC	- General Contract Conditions
FEA	- Fast Environmental Assessment
SHW	- Solid Household Wastes
IPIG	- Investment Projects Implementation Group
CEMWP	- Construction Environmental Management Work Plan

INTRODUCTION

1 Preamble

1. This report is a semi-annual review of environmental monitoring (SAEMR) for the rehabilitation and improvement of the Central Asian Regional Economic Cooperation Corridor 3 (Bishkek-Osh road), Phase 4, Performance-based maintenance contract, Kara-Balta-Suusamyr section (km. 61-129 km)
2. The purpose of signing a Contract is to ensure a physical condition of the roads that is acceptable to road users during the entire term of the contract.

2 Headline Information

3. CAREC Corridor 3 Improvement project, Bishkek-Osh road: Kara-Balta-Suusamyr section, km 61- km 129, financed by a loan from the Asian Development Bank (ADB) Kyrgyz Republic (KR).
4. The road plays an important role in transport system of Kyrgyzstan, being only road that is open for transport movement during the all year, and which connects the northern part of the country with the capital Bishkek and southern part of country with the second largest city Osh. Therefore, good maintenance and operation of the road section to ensure the free flow of vehicles at any time of the year is crucial for the political and economic life of the Kyrgyz Republic.
5. The project road section is located mainly in the Chui intermountain valley, at the bottom of the mountains. The Kara-Balta-Suusamyr road determines the location in the latitudinal direction. The height of the project road varies from 800 m above sea level in Kara-Balta to 3,300 m in Suusamyr, at the entrance to the tunnel.
6. The project road is located in a high-risk seismic zone (9-point) and in combination with high soil erosion on steep slopes and extensive grooves per km. 97 - km.129 represents a constant environmental problem associated with the sliding of slopes due to landslides and earthquakes.
7. The project road is in a semi-arid zone, with a protracted cold season. Frosts in the mountainous region starts in October and hold on until the end of May. Annual precipitation along the project area is about 450 mm. In the mountainous area of the project site, the number of winter events (snowfall) is 60 days.
8. Land utilization in the impact zone of the Kara-Balta-Suusamyr road section, in particular, at the beginning of the project road section has an agricultural purpose. In the area of Kara-Balta, such crops as wheat, fodder and industrial crops, various types of vegetables, such as potatoes, bell peppers, carrots, watermelons, eggplant, and fruit plantations like apple and apricot are mainly cultivated.
9. In the mountainous region, human activity is limited to breeding horses and sheep. The landscape is changing closer to the steppes, the soil is covered with grass and low shrubs, such as saxaul. Chia is a common grass with whitish reeds like a reed, it is also a common type of grass.
10. The road corridor covered by the PBMC (Kara-Balta-Suusamyr) does not interfere with any watercourses, wetlands or other sensitive areas.

11. Sensitive zones - The project road section does not pass over, through or near any established sensitive ecological zones. The existing road passes through the village of Sosnovka, where the population is about 5,000 people. Since the road does not create a new traffic flow, new safety measures are not provided, except to improve compliance with speed limits and ensure road sections. A speed limit of 40 km / h has been established inside the village, which should be observed even after the completion of road repairs.
12. In the Kara-Balta town, Sosnovka village and until the end of the project site, the existing road crosses the Kara-Balta river 22 times. Crossings across the river are carried out by bridges. According to the Decree of the Government of the Kyrgyz Republic dated September 7, 2009 No. 561 "On Fishery Development and Use of Natural and Artificial Reservoirs in the Kyrgyz Republic", the Kara-Balta River belongs to fishery reservoirs. In other words, there is fish in the river and, most likely, the river is a place for recreational fishing. This category of river is assigned a level of protection that prohibits the maintenance of the development of aggregates near the river, the construction of obstacles, dams or the movement of water vehicles that hinder the movement of fish. Therefore, no work is carried out near the Kara-Balta River, except for works on erosion protection to minimize sediment load in the river.
13. In the course of rehabilitation of roadside drain ditches, the diversion of surface water, in order to prevent the entry into the river, is carried out on a roadside area covered with grass, which makes it possible not to pollute the river, which is a habitat for fish.

3.PROJECT DESCRIPTION AND CURRENT ACTIVITIES

3.1 Project Description

14. Performance-based maintenance contract, the Kara-Balta-Suusamyр section till the Too-Ashuu tunnel (km 61 - km 129). CAREC 3 Transport Corridor Improvement Project (Bishkek-Osh Highway), Phase 4. Engineering and construction supervision from January to May 2020 was carried out by EPTISA Servicios De Ingenieria S.L./ Eptisa Muhendislik / RAM, from June 2020 by JV Temelsu International Engineering Services Inc.
15. To ensure the smooth passage of vehicles on this route as needed, year-round proper maintenance and minor repair works are carried out.
16. In the course of maintenance of the site, road pavement repair works are carried out, road safety is ensured, road signs are replaced, drainage structures are maintained, roadside plants are monitored, bridges are repaired, slopes are reinforced, winter maintenance is provided, and the road surface is maintained in different weather conditions.
17. The total budget for the implementation of this component is 296,914 350 KGS.
18. Outside the existing carriage way and shoulders, work is not carried out. New construction or modification of the plan is not envisaged.

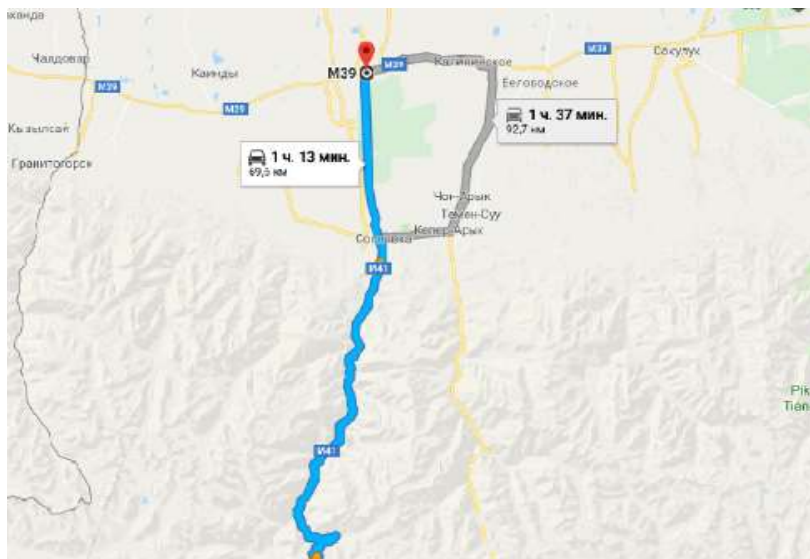


Figure - 1 Kara-Balta - tunnel road section

19. The locations of workers and construction equipment are located in 2 places: the village of Sosnovka km 80/ number of workers 12 people and the Tunnel km. 118
20. The area of both bases is rented from the Road Maintenance Unit №9 for the location of equipment and workers who will live in this territory, in rooms with the necessary conditions for living. In winter, preventive maintenance works are carried out to clean the roads from snow cover, as well as to fill the ice cover with sand and salt, the amount of material used is provided in the report on the fact.

Supply of materials for construction and repair works.

21. Asphalt and bitumen are supplied from the asphalt plant located in the Sokuluk district, Novopavlovka village, Vzletnaya rural settlement.

Sand - "Bashkarasu" Borrow-pit, PE Japaraliev

Concrete - Kara-Balta concrete plant

Table - 1. Volume of main construction works

No	Name of works	Unit	Completed
1	Patching and local repair	m ²	3294,49
2	Manual and mechanical removal of all rockfalls and unstable materials on or near the carriageway.	m ³	700

3.2 Project Contracts and Management

Table- 2. Project Contracts and Management

Project	Project to improve the CAREC transport corridor 3 (Bishkek-Osh road), Phase 4 Result-based contract. Plot of Kara-Balta-Suusamyр (km.61-129,5)- CAREC/C3/P4/ICB/WC2 Component 2
Contractor :	LLC «Mostdorstroy»
Section:	61 km – 129,5 km, total length – 68,5 km
Donor :	Asian Development Bank
Contract date	18/12/2017
Executive body :	Ministry of Transport and Roads of the Kyrgyz Republic
Notification of the start of work	05/01/2018
Date of completion :	January,1 2021
Time for completion-days :	36 months
Extension-days :	-
Warranty period - days :	180 days
Contract amount :	Kyrgyz som 296,914 349.28

Total prepayment amount	:	10% of the accepted amount of the contract
Performance Guarantee Amount	:	%15 of the accepted amount of the contract

Works included:

22. Road maintenance works throughout the road section include the following:

- Winter road maintenance (January-February): Preparation for winter maintenance in accordance with the winter maintenance plan, placement of supports/poles and preparation and operation of winter maintenance places; Winter patrols; excessive snow cleaning; clearing of the road surface from the snow using salt and placement of abrasive material and anti-icing liquid to achieve the required level of service during the winter season - 900 km.
- Cleaning the roadway and roadsides (by a grader, loader). 61-129 km in the winter season. The roadside was constantly cleared of snow, and grading of the carriageway was also carried out. -121-129 km





Figure-2. Winter road surface cleaning
- Filling the road with sand (mechanical and manual) 61-129.5 km.





Figure-3. Sand bedding of the road

- Cleaning roads from rubbish and rockfalls. 81-129.5 km. Constantly patrolling the road, cleaning and cleaning the road from rockfalls and debris.





Figure-4. Cleaning roads from rubbish and rockfalls

- current maintenance of pavement (patching, filling cracks, cleaning); Section 78 km-121 km

Table - 3. Patching – 3294,49m³

Patching		
Section	Waste material	Dump
61km-90km	Existing asphalt after felling.	Sosnovka village dump



Figure-5. Current pavement repair

23. Cleaning and repair of drainage facilities - In total, there are 96 culverts on the site that facilitate the flow and drainage of water from one side of the road to the other, along a slope. Pipes are prefabricated concrete pipes that are cleaned by hand. All pipes are placed in earthen / soil ditches. The job consists of removing dirt and debris to ensure an unhindered flow of water. Cleaning culverts 61-129 km. Cleaning along parapets. Garbage cleaning 61-129.5 km.



Figure-6. Culvert cleaning along parapets



Figure-7. Garbage collection along the road

24. *Vegetation control* – There is no green spaces that interfere with the maintenance / service of the road or require removal along the road sections.
25. On flat roads between km 61 and km 85 (between Kara-Balta and Sosnovka) the road is on a small embankment about 0.5-1m high, next to agricultural land. There are dirt roads, berms and slopes covered with natural vegetation. Cause of the climate and types of mountain flora, vegetation, as a rule, does not grow above 30 cm, which does not require any intervention. In places where grass height exceeds this value, grass is mowed by hand, by contractors or owners of adjacent fields. Such vegetation is usually used as animal feed. Herbicides are not used there.
26. Rehabilitation of bridges is not provided

4.ENVIRONMENTAL ACTIVITIES

4.1 General Description of environmental measures

27. In accordance with clause 24 of the General Conditions of Contract (GCC), the Work Execution Program includes a Health and Safety Management Plan. The aim of the Health and Safety Management Plan is to create a responsible attitude towards occupational health and safety and compliance with existing regulations.
28. During the reporting period, regular visual monitoring of compliance with environmental requirements during construction work on all road sections of the road was carried out by the local environmental specialist EPTISA from January to May 2020, the environmental specialist of the Investment Project Implementation Group of the MoTR KR, and the environmental specialist of the Contractor.

4.2 Environmental Safeguard Measures

29. The EMP provides a description of the various measures proposed by the project, which are intended to prevent, mitigate or compensate for the negative environmental impacts that may arise as a result during realization of project. At the end of each month, a report is submitted according to the Construction Environmental Management Work Plan (CEMWP).

4.3 Emergency Procedures and contingency Plan

30. The work program includes emergency procedures and the Contingency Plan, which establishes the roles, activities and procedures for specific types of emergencies presented in contingency plans that close roads. Emergency procedures and the Emergency Action Plan are prepared by the Contractor and agreed with the Project Manager and other stakeholders. The Contractor presented the “Emergency Procedures and Contingency Plan”, which was approved by the consultant and the Contractor commenced work accordingly.

4.4 Traffic Management Plan

31. The work program includes a traffic management plan. The traffic management plan determines the traffic management procedures at the work sites and during winter weather events. The traffic management plan was developed by the Contractor and agreed with the Project Manager. The traffic management plan is submitted by the contractor and approved.
32. Contractor's camp is located at 81 km. Kara-Balta – Suusamyр road. In the camp there is a dining room, office, and sleeping places for Contractor's employees. The camp is provided with clean drinking water, sinks and trash cans are installed. Fire-fighting accessories are installed in the required places. Opposite the camp there is a parking for cars and equipment of the contractor. Storage areas are located at the back of the camp and there is enough storage space.

4.5 Audit of Construction Sites

Table -4. Audit of Construction sites

No p/p	Date	Full name of auditors	Audit's purpose	Summary of any important audit notes
1	24.01	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards for winter road maintenance.	Road filling was performed mechanically and manually (61-129km).
2	21.02	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards for winter road maintenance.	Road filling was performed mechanically and manually (61-129km).
3	23.03	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards for road safety.	Garbage and stones are being cleaned in the area of 61-129.5 km.
4	19.05	B. Sydykbekova - the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder	Compliance with environmental standards for road safety.	It is noted that the maintenance of the road is respected. Garbage and rockfalls were cleaned at a site of 61-129.5 km

4.7 Unanticipated environmental impacts and risks

33. On the areas of km 86.9 - 88.7 and km 98, rockfalls occur due to heavy rains. Also in this area there are large rock pieces hanging over the road, representing the threat of spalling and falling onto the road, representing a danger to passing vehicles.



Figure-8. Rockfall hazard

5.RESULTS OF ENVIRONMENTAL MONITORING

5.1 Review of the monitoring conducted during the current period

Instrumental monitoring of the environment

34. According to the IEE/EMP instrumental measurements of water, air and noise parameters are not provided. Environmental impact of pollutants is not expected.

Water quality monitoring

35. According to the IEE/EMP, instrumental measurements of water quality are not provided for this Project. The project has no impact on water bodies, as all works will be carried out at a sufficient distance from water sources.

Air quality monitoring

36. According to the IEE/EMP, instrumental measurements of air quality are not provided for this Project.

37. There were no significant dust emissions during the reporting period. Emissions from trucks during the transportation of bulk material were minimal, trucks traffic was limited (with the exception of transporting equipment to the site).

Noise and vibration monitoring

38. Regular monitoring of noise and vibration is not envisaged for this Project according to the IEE/EMP. However, workers wear ear protectors if necessary.

5.2 Waste Management

39. Removed old asphalt can be reused for unpaved shoulders or as an embankment for other rehabilitation works. It can also be used for backfilling of borrow-pits and covered with a layer of soil on top. Asphalt can be laid on adjacent roads as a surface layer or used as a material for patching with compaction. The resulting solid household waste (SHW) in the construction camp is disposed of in ayil okmotu of Sosnovka village, according to the terms of the contract.

40. Cleaning and repair of drainage structures - There are 96 culverts on the site, which facilitate water drainage from one side of the road to the other, along a slope. Pipes are prefabricated concrete pipes were cleaned by hand. All cuvettes are earthen/ ground cuvettes. The job consists of removing dirt and debris and eventually leveling to ensure the unobstructed flow of water. If the culverts are not serviced, they can become clogged, leading to filling, flooding of the road surface, erosion and possibly road jams. Therefore, this work has a positive impact.

41. Repair works on bridges is mainly related to safety, i.e. restoration of safety barriers after accidents or collisions. Work in the river beds should be limited to clearing the watercourse from debris that, if released into the water stream, can lead to congestion, spillage and erosion. Concrete repair works are not included in the scope of work of a maintenance / maintenance contractor, however, they can sometimes be carried out after an emergency, if for example structures are damaged due to sudden floods or accidents.

5.3 Health and Safety

5.3.1 Health and Safety of local community

42. The traffic management plan has been agreed with the authorities of the Main Directorate for Road Safety of the Ministry of Internal Affairs of the Kyrgyz Republic. The recording will be kept at the construction camp office.

5.3.2 Occupational health and safety of workers

43. Workers are provided with all necessary equipment, as well as basic training on the use of protective clothing and personal protective equipment. Workers are provided with PPE such as: vests, hard hats, gloves, shoes. Safety Instruction held in the camp, there is a log of registration. There are no night works.

44. The camps are equipped with disinfectant sanitation and drinking water. The camp has a container for collecting MSW. Drawn up a contract for the export of solid wastes with local government. There are no hazardous materials on the territory of the construction camp.

ANNEX 2 MONITORING PROTOCOLS



ПРОФИЛАБ
оперативная лаборатория

Certificate of Accreditation №KG 417/КЦА.ИЛ.065 dated «02» February 2018

Valid before «02» February 2022. The scope of accreditation on the website: www.kca.org.kg

THE PROTOCOL OF NOISE MEASUREMENT

№50 dated «01 » June 2020

1. Legal person, individual entrepreneur or natural person, where the measurements are conducted:

«China Railway No.5, Engineering Group Co. LTD» Company

(name, registered address)

2. The object where the measurements are conducted: **Bishkek-Osh road (15.9-61 km)**

(name, actual address)

3. The basis for the measurement: **Contract № 37**

4. Name of measuring instruments and information on state verification:

Name of measuring instrument	Number	Certificate of verification		Verified before
		number	date	
Ecophysics - 110A	№AB 130044	№ 1086	08.05.2020	08.05.2021

5. Regulatory documentation on measurement methods, according to which the measurements were carried out: **GOST 23337-2014. «Noise "Methods for measuring noise in residential areas and in residential and public buildings».**

6. Regulatory documentation on norms: **Sanitary norms 2.2.4 / 2.1.8.562-96, "Noise at workplaces, in premises, in residential public buildings and on the territory of residential buildings."**

7. Environmental condition: **Temperature 25° C**

Humidity 35%

atmospheric pressure 696 mm mc

8. The sources of physical factors and their characteristics: **traffic and company's equipment**

9. Figure

10. Date of measurements: 28.05.2020 time 10:00-13:00

Conclusion on the results of measurements:

At the time of the measurements, the background noise level at the measured points during the movement of vehicles near the road was 62 dB in the daytime. In the operating mode of the Contractor's equipment, the noise level exceeded the sanitary standard from 9 dBa to 16 dBa, with the equipment off, the noise level exceeded the sanitary standard from 6 dBa to 12 dBa

Sanitary norms 2.2.4 / 2.1.8.562-96, "Noise at workplaces, in premises, in residential public buildings and on the territory of residential buildings."

Sanitary inspector of LLC «ProfiLab»

Zh. T. Arzykulov

signature

full



ПРОФИЛАБ
оперативная лаборатория

Certificate of Accreditation №KG 417/КЦА.ИЛ.065 dated «02» February 2018

Valid before «02» February 2022. The scope of accreditation on the website: www.kca.org.kg

THE PROTOCOL OF VIBRATION MEASUREMENT

№13 dated «01 » June 2020

1. Legal person, individual entrepreneur or natural person, where the measurements are conducted:

«China Railway No.5, Engineering Group Co. LTD» Company

(name, registered address)

2. The object where the measurements are conducted: **Bishkek-Osh road (15.9-61 km)**

(name, actual address)

3. The basis for the measurement: **Contract № 37**

4. Name of measuring instruments and information on state verification:

Name of measuring instrument	Number	Certificate of verification		Verified before
		number	date	
Ecophysics - 110A	№AB 130044	№ 1086	08.05.2020	08.05.2021

5. Regulatory documentation on measurement methods, according to which the measurements were carried out: **GOST 31191.1-2004 «Vibration. Measurement of total vibration and evaluation of its impact on humans. Requirements for conducting measurements in the workplaces».**

6. Regulatory documentation on norms: **SN 2.2.4/2.1.8.566-96 «Industrial vibration, vibration in rooms, residential and public buildings»**

7. The sources of physical factors and their characteristics: **traffic and company's equipment**

8. Environmental condition: **Temperature 25° C**

Humidity 35%

atmospheric pressure 696 mm mc

9. figure

10. Date of measurements: 28.05.2020 time 10:00-13:00

Background vibration level						Y									81		
						Z									78		

Authorized representative of the object, present during the measurements:

Full name Myrsaliev N., Volkova T.

Position 1) env/specialist of Contractor; 2)Environmental Specialist

Signature _____

Position	Full name	Signature
Head of dep.	Amanova N.T.	
Engineer	Nuriddin u. T.	

The protocol is drawn up in two copies, 1 copy is issued to whom it may concern, the 2 nd copy remains in the laboratory.

Note: The results of the Protocol correspond to the time of measurements.

Reprint of the Protocol without the permission of the head of the laboratory is prohibited.

End of Protocol

Conclusion on the results of measurements:

According to the results of instrumental measurements, the level of vibration when company's equipment is operating is from 94 to 112 dB. When it is not operating is from 76 to 94 dB

Background vibration is 81 db.

Note: Vibration level other than residential and work places is not rated.

Sanitary inspector of LLC «ProfiLab»

signature

Zh. T. Arzykulov

full