Semi-annual environmental monitoring report

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January - June 2022

The Kyrgyz Republic

Central Asian Regional Economic Cooperation Corridor 3 Improvement Project (Bishkek - Osh road), Phase 4, Bishkek-Kara-Balta section (km 8.5 - km 61).

Prepared by: Joint Venture Temelsu International Engineering Services Inc., E. Gen Consultants Ltd., and Desh Upodesh Ltd. in association with Kyrgyz TREC International, Ltd. for the Ministry of Transport and Communications of the Kyrgyz Republic and the Asian Development Bank

Prepared for:
Ministry of Transport and Communications of the Kyrgyz Republic.

Endorsed by: [Full name and signature of Executive Agency employees]

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Abbreviations

ADB	-	Asian Development Bank
CAREC	-	Organization of Central Asian Regional Economic Cooperation
CSC	-	Construction Supervision Consultant
EMP	-	Environmental Management Plan
PIU	-	Project Implementation Unit
km	-	kilometer
KR	-	Kyrgyz Republic
MPC	-	Maximum permissible concentration
MPL		Maximum permissible level
MoTC	-	Ministry of Transport and Communications of the Kyrgyz Republic
MTACC	-	Ministry of Transport, Architecture, Construction and Communications 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
DDPTSSES	-	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 implementation of CAREC Corridor 3 (Bishkek-Osh Road) Improvement Project, Phase 4.

2. The report is the **tenth** semi-annual environmental monitoring report covering the period from January to June 2022, under the ongoing CAREC Corridor 3 Improvement Project (Bishkek-Osh Road), Phase 4. The monitoring report contains environmental issues, mitigation and monitoring measures taken by the Contractor and monitored by the national environmental specialist (Tatyana Volkova) of the construction supervision consultant Temelsu. Road rehabilitation works included: reconstruction of six bridges, replacement of culvert pipes, construction of underpasses, taking out of old asphalt, preparation of new road lanes in the eastern and western directions, construction of sidewalks and culvert ditches, tree planting, and operation of asphalt and concrete plants, stone crushing plant for the processing of inert materials.

3. The report contains information about the work progress and changes related to the prevention of environmental impacts. The results are based on numerous site visits, conducted by the Consultant's national environmental specialist from January to June 2022, wherein the main focus was on monitoring 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 the 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 is part of the Central Asia Regional Economic Cooperation (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 Improvement project (Bishkek-Osh Road), Phase 4, (Bishkek-Kara-Balta section, 52.5 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 mitigation of the environmental impact of the road in terms of noise impact from passing traffic by upgrading asphalt pavement.

6. In 2016 during the bidding process China Railway No.5 company was selected for the implementation of project component 1. On March 28, 2017, Civil Works Contract was signed between the Ministry of Transport and Roads of the Kyrgyz Republic and China Railway No.5 for civil works. The overall contract price is 70,239,899.29 USD. In the course of extensive contract negotiations, the work group managed to change the fixed escalation coefficient to an increase, i.e., from 0.15 up to 0.51 – thus, minimizing price escalation. On April 3, 2017, the Consultant issued a Notification for Commencement. The construction works commenced on 3 April 2017.

7. Initially the road's designed length was 52,5 km length. Feasibility Study (FS) was completed by the Consultant Kocks Consult as part of ADB Technical Assistance, the purpose of which was to identify the economic soundness of the Project. Feasibility Study set out approximated cost of the Project based on the preliminary topographic survey at a scale of 1:2,000 and geotechnical studies conducted. Following the FS decided to allocate 100 M USD, 65M USD out of which is loan money and 35M USD - grant. Co-financing by the Government of the Kyrgyz Republic is 20.8M USD. Out of this, the Project provides 92.06M USD for civil works. The detailed design preparation was carried by Consultant Eptisa, and detailed topographic survey (at the scale of 1:1,000) was conducted including additional geotechnical and other surveys which allow specifying engineering costs of the Project. Based on the results of the detailed design, the Civil Works cost was about 115.1M USD. Thus, there was a lack/deficit of funds in the amount of 23.06M USD. In this connection, the Ministry of the Transport and the Roads of the Kyrgyz Republic decided to revise the design within the available funds for Civil Works.

8. As a result, through agreement with ADB, it was decided to decrease the project road by 7.4 km and to deem the road starts at 15.9 km instead of 8,5 km on Bishkek-Osh Road. Thus, the overall length of the project road is now 45.1 km. The reduction of the specified site was taken before the announcement of the tender for the procurement of Civil Works.

9. In addition, it is also worth noting that cost of the contract signed between the Ministry of Transport and Roads of the Kyrgyz Republic and General Contractor China Railway No.5 amounts to 70.24M USD, i.e., there should be spare funds up to 22M USD. In 2019, the saved funds were planned to use for the construction of the remaining road section (8.5 km – 15.9km). International competitive bidding would be conducted in accordance with ADB's Single-Stage Two–Envelope bidding procedure. The bidding process has been started on July 17, 2019. However, in 2020 the bidding process was canceled. Further, by the method of direct contract award, the contract was awarded to China Railway No. 5. Notification on Commencement of Works was issued on November 19, 2020.

10. On May 31, 2020, the contract with the consulting company Eptisa was completed. Following the bidding process, Temelsu International Engineering Services INC.(Turkey); Desh Upodesh Ltd. (Bangladesh) and e. Gen Consultants Ltd. (Bangladesh) new Joint Venture consulting companies were selected. New Consultant started to work on May 11, 2020.

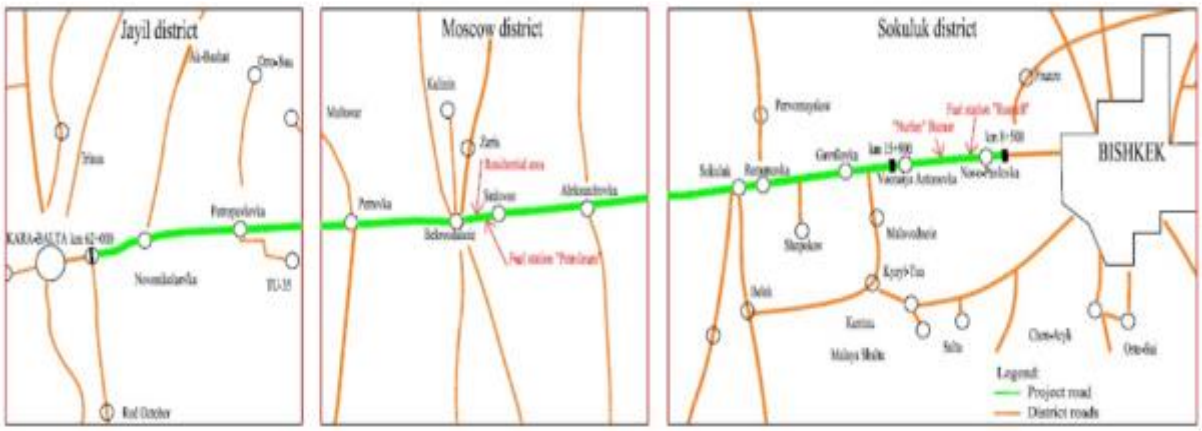

Figure 1 Administrative districts of project road

Figure 2 Bishkek Kara-Balta project road section from km 8.5 - km 61

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES.

2.1 Project Description.

2.1.1 Location of the project site and main design. 8.5 km - 61 km section of the Bishkek Kara-Balta project road.

11. 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.

12. The project provides for the rehabilitation of 52.5 km of the Bishkek-Osh Road. The project site is located between Bishkek and Kara-Balta cities and between 8.5 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 site.

13. 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.

14. 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 vertical and horizontal alignment.

15. In order to improve drainage systems, the work includes the reconstruction and replacement of majority of the degraded culvert system, and the addition of new cross-drainage structures. Existing bridges were totally replaced. And it will be constructed more than 64 km of sidewalks and six underpasses.

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

17. The environmental impact includes:

- 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.
- Impact to the air;
- Impact to water courses and rivers;
- Impact resulting from sourcing of aggregates in borrow-pits;
- Impact on soil and vegetation, including tree stands near the project road, due to site clearing work;
- Impact resulting after bridge rehabilitation works;
- Impact of asphalt production plants and aggregates crushing plants;

- Impact of Contractor's workers camps.

18. 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 sections where there are no or there are minor resettlement issues.

Table 1 Road sections where the construction work started 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

Table 2 . Road sections where the construction work started 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

Table 3 km 8.5-km 15.9 road section where construction has been started in the period from 2020

Section No.	Start of the section, km	End of the section, km	Length of the section, km
1	8.500	15.900	7.400

19. According to the Technical specifications, 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 4 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 8.5 km – 15.9 km, the overall length is 7.4
Donor:		Asian Development Bank.
Contract Sign Date		28/03/2017 – 45.1 km section 20/07/2020 – 7.4 km section
Executive Agency	:	Ministry Transport and Communications of the Kyrgyz Republic
Notice to Commence		03/04/2017– 45.1 km section 19/11/2020 – 7.4 km section
Completion Date	:	45.1 km section: 18 March, 2020; October 16, 2020 (VO 9); 16 July, 2021 (VO 11), 18th November 2021 (VO 17) 7.4 km section: 19 November 2022
Time for Completion – Days	:	45.1 km section: 1080 days, 1292 days (VO 9); 1565 days (VO 11) 1690 days (VO 17); 7.4 km section: - 730 days
Extension of Time – Days	:	45.1 km section: 212 (VO 9) + 273 (VO 11) + New: 125 (VO 17); 7.4 km section: none
Defect Liability Period – Days	:	365
Contract Amount	:	45.1 km section: USD 73 675 821.86; 7.4 km section: USD 17 763 085,66
Minimum Amount of Interim Payment USD (2%Addendum N0.1 dated on 30.04.2020)	:	USD 1,404,797.99
Total Amount of Advance Payment	:	15% Percentage of the Accepted Contract Amount
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		28 days 28 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		22%
Limit of Retention Money		10% of Accepted Contract Amount
Percentage of Retention		5% of Value of Works certified for Payment

Table 5 List of Consultant's staff

INTERNATIONAL STAFF	
Resident Engineer-Team Leader	Kenan Kose
Pavement and Materials Engineer	Eray Gamgam
Contract Specialist	Ali Yagci
Social Development and Resettlement Specialist	Md. Nurul Hoque
Contract Specialist	Mahmut Nedim Altay
Environment Specialist	Dr. Md. Mohsin Almaji
PBM Engineer	Seyfettin Akinci
NATIONAL STAFF	
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	Baiguchukov Manas
Quantity engineer	Alymkulov Zhoodar
Quantity engineer	Abylbekov Abai
laboratory assistant	Zholdoshev Ruslan
laboratory assistant	Minazarov Dyikan
laboratory assistant	Abdykaparov Pamir
Estimator – quantity engineer	Kozevnikova Setlana
Translator	Glinov Vyacheslav
Office manager	Kalil uulu Suiun
Environmental Specialist	Tatiana Volkova

2.2.1 Scope of work according to contract

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

- Number of lanes – 4 and 6
- Lane width – 3,5 - 3,75m;
- Carriageway width – 2x7,5;
- Shoulder width – 2.5м
- Carriageway shoulder breakpoint stabilization – 1.0m
- Axle design weight – 11,5 tones.

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

22. The Right of Way width is 50 - 60 meters. The design provides for construction and repair works in the following engineering structures and the communications as well as scope of the work:

Pavement Construction Quantities:

- Wearing course 5cm thick – 46,692m3;
- The same in junctions 5cm thick – 4,169m;
- 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 design provides for parking lots next to market places – 4 units;
- Auto pavilions – 114 units;
- Sidewalks – 81 285 meters:

Road safety features:

The design provides for repair of 4 existing underpasses and construction of 6 new underpasses;

- Marker posts – 515 units;
- Metallic foot-walk guard rails – 3980 linear m;
- Parapet fencing – 1158 units;
- Median fencing – 14 887 units;
- Retaining walls – 3669 linear m;
- Traffic lights – at 20 intersections.

Reconstruction of the Utilities

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

Vegetation Planting

23. Almost throughout the entire length the project road is planted with trees on both sides, most of them were cut down during the rehabilitation of the road. Initially, at the road section from 15.9 km to 61 km, the number of trees falling under forced cutting was 5 916, but after an additional study of the project site, the design of sidewalks was changed, thus it was possible to save 104 trees. Tree cutting is a "forced" measure. Trees located in areas of roadbed widening, construction of sidewalks and drainage ditches are fall under "forced" cutting. The total number of trees that fell under forced cutting is 5 812. As compensatory measures, to restore the number of green spaces the planting of new tree seedlings is provided at ration 2 to 1. As of May 2022, the total number of trees planted was 6125.

Land Acquition and Ressetlemnt Plan.

24. 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.

25. The following organizations are involved in the project implementation:

- Ministry of Finance of the Kyrgyz Republic (MOF),
- Ministry of Transport and Communications of the Kyrgyz Republic (MoTC);
- Project Implementation Unit (PIU) MoTC KR;
- Ministry of natural resources, ecology and technical supervision of the Kyrgyz Republic;
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance under the Ministry of Health of the Kyrgyz Republic;
- *MoTC* is responsible for the development of the transport sector, and is the Executing Agency (EA) of the project. MoTC has overall responsibility for the planning, design, implementation and monitoring of the project. PIU works under the MoTC and implements the tasks assigned by MoTC.
- *The Ministry of Finance of the Kyrgyz Republic* is the authorized state body responsible for coordinating actions with the ADB and other donors on external assistance issues.
- Ministry of natural resources, ecology and technical supervision of the Kyrgyz Republic – ensuring environmental safety, strengthening environmental protection measures and reducing climate risks, the leading environmental state agency responsible for the state's policy in this area and coordinating the actions of other state bodies in these matters. Its functions include:
  - development of environmental policy and its implementation;
  - conducting a state environmental assessment;
  - issuance of environmental licenses;
  - environmental monitoring;
  - provision of environmental information services.
- 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 6 Main Organizations involved in the project and related to the environmentals safeguards.

No	Organization Name	Role in project	Responsible person for the environmental safeguards	Contacts
1	ADB	Environment Specialist	Ninette R. Pajarillaga	npajarillaga@adb.org
2	ADB's Kyrgyz Republic Resident Mission (KYRM)	Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	PIU under MoTC KR	Executive 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	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru

6	Subcontractor LLC «Maksat»	Supply and installation of street lighting facilities at 45 km section.	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru
7	Subcontractor LLC «Svyaz Proekt»	Relocation of the underground cable at 45 km section	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru
8	Subcontractor LLC «Ishmer»	Supply and installation of bus stops at 45 km section	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru
9	Subcontractor LLC «Ren Stad»	Installation of road signs at 45 km section	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru
10	Subcontractor LLC «Aiser Torg»	Installation of traffic lights at 45 km section	Uzbekov Kanatbek	kanatbek.uzbekov.88@mail.ru

2.3 Project activities during the current reporting period.

Table 7 Work Progress. Main section (КМ 15,9 – КМ 61)

№	Bill 3 (Earth Works)	Unit	Scope per design	Actually completed	June	% of completion
1	Clearing and grubbing	ha	76	75		99%
2	Cutting and grubbing of trees	pcs	3348	3348		100%
3	Excavation and disposal of suitable material from existing road to reuse as fill material	m3	201 530	188 575,00	Completed	94%
4	Formation of embankment using common soil from borrow pits	m3	67511	33882	Completed	50%
5	Excavation and dispose of unsuitable soil to a spoil area	m3	103 129	87480	Completed	85%
6	Scarifying of existing asphalt concrete pavement	m3	84340	84340		100%

№	Bill 4 (Drainage Works)	Unit	Scope per design	Actually completed	June	% of completion
1	Pipe culverts, d= 1.5 m	pcs.	53	53		100%
2	Culverts with opening 0.8x0.8 m	pcs.	100	100		100,0%
3	Culverts with opening 0.5x0.5 м	pcs.	240	235	Completed	97,9%
4	Box culverts - 2.0x2.0 m	pcs.	1	1	Completed	100%
5	Provision and mounting of reinforced concrete chutes B-3.	pcs.	21600	19450	145	90%

№	Bill 5 (Pavement Works)	Unit	Scope per design	Actually completed	June	% of completion
1	Sub-base – 28cm	m3	448 920	448 920		100%
2	Base course - 15см	m3	157 257	157 257		100%
3	Black crushed stone – 9cm (asphalt treated base)	m3	86 906	86 906		100%
4	Binder course – 9cm	m3	84 046	84 046		100%
5	Wearing course - 5см	m3	46 692	46692,5		100%

№	Bill 6 (Bridges)	Unit	Length per design	Actually completed	June	% of comple tion
1	The bridge over the Jelamysh r. 18.3 km	rm	25,1	24,1		98%
2	Jantay channel 24.4 km	rm	35,5	32,7		99%
3	The bridge over the Sokuluk r. 27.7 km	rm	35,2	33,7		98%
4	Krepostnoy channel 40.7km	rm	35,5	33,8		99%
5	The bridge over the AkSuu r. 44km	rm	29,2	27,4		98%
6	The bridge over the AkSuu r (mudflow channel) 44.6km	rm	20,1	19,7		98%

№	Bill 9 (Miscellaneous Works)	Unit	Scope per design	Actually completed	June	% of comple tion
1	Old Underground passage KM22+720	m	26,0	26,0		100
2	Old Underground passage KM25+880	m	78,0	78,0		100
3	Old Underground passage KM30+481	m	37,5	37,5		100
4	Old Underground passage KM32+194	m	28,5	28,5		100
5	New Underground passage KM33+091	N	24,5	24,5		100
6	New Underground passage KM37+313	m	31,27	31,27		100
7	New Underground passage KM42+797	m	34,34	34,34		100
8	New Underground passage KM55+410	m	27,9	27,9		100
9	New Underground passage KM57+415	m	24,5	24,5		100
10	New Underground passage KM59+640	m	27,5	27,5		100
11	Installation of parapet OP-1	pcs	14 887	14 882		100
12	Reconstruction of 10 kV + 04 kV power line poles	pcs	209	304		145
13	Reconstruction of communication line poles	pcs	507	391		77
14	Sidewalk	pcs	82	64,03	1,89	78,09
15	Relocation of the cable communication line	m		8500		
16	Relocation of water pipe line	m		1250		
17	Lighting	pcs	2 190	2 190	190	100,00
18	Anchor lighting	pcs	190	190	180	100,00

Table 8 Work progress at 7.4 km section

№	Earth works	UoM	Scope per design	Actually completed	Completion %
1	Clearing and grubbing	Ha	13,00	9,00	69%
2	Cutting and grubbing of trees	pcs.	1090	307	28%
3	Excavation and disposal of suitable material from existing road to reuse as fill material	m3	5 338	3 737	70%
4	Formation of embankment using common soil from borrow pits	m3	1 925,00	1 348	70%
5	Excavation and dispose of unsuitable soil to a spoil area	m3	118 130	82 691	70%
6	Scarifying of existing asphalt concrete pavement	m3	33 860,00	25 395,00	75%

№	**Drainage works**	**UoM**	**Scope per design**	**Actually completed**	**Completion %**
1	Culverts d=1.5м	pcs.	10	10	100%
2	Culverts, with opening 1.0x1.0m	pcs.	6	6	100%
3	Culverts, with opening. 0.5x0.5 m on junctions	pcs.	83	27	33%
5	Reinforced concrete ditches B-3	pcs.	4195	456	11%
№	**Pavement**	**UoM**	**Scope per design**	**Actually completed**	**Completion %**
1	Subbase – 28 cm	m3	92 650	63 929	62%
2	Base – 15 cm	m3	32 770	19 007	59%
3	Black crushed stone – 9 cm (ATB)	m3	18 720	10 670	59%
4	Binder course – 9 cm	m3	18 245	8 575	46%
5	Wearing course – 5 cm	m3	10 140	0	0%

2.3.1 Road construction works

26. Regular monitoring over compliance with the requirements of environmental legislation during construction work on the Bishkek-Karabalta Road has been started in March 2022.

27. During the reporting period, the following construction works were carried out at 45.1 km section (km15.9 – km 61):

- construction of sidewalks;
- installation of side culvert ditches;
- construction of bus stop pavilions and asphalting of bus bay area;
- continuation of construction work at junctions;
- at the underpasses finishing work continued including covering the walls with tiles, as well as ensuring drainage from outside at the portals,
- planting, care, and watering of seedlings.

28. During the reporting period, work continued on cleaning area near the parapets from earth waste. Soil accumulated near the parapets during the winter period was cleaned and removed.

29. Bus stop pavilions were constructed and bus bay areas were asphalted.

Figure 3 Asphalting of bus bay areas.

30. Subcontractor continued installation of side culvert ditches.

Figure 4 Installation of side culvert ditches

31. For making crossings to adjusting streets, prefabricated reinforced concrete or metal pipes were used. The use of asbestos-cement pipes is not found.

Figure 5 Installation of roadside culvert ditches and crossings to private houses and streets adjacent to the road

33. Construction of sidewalks continued, which included installation of curbs, preparation for asphalting, and further asphalting.

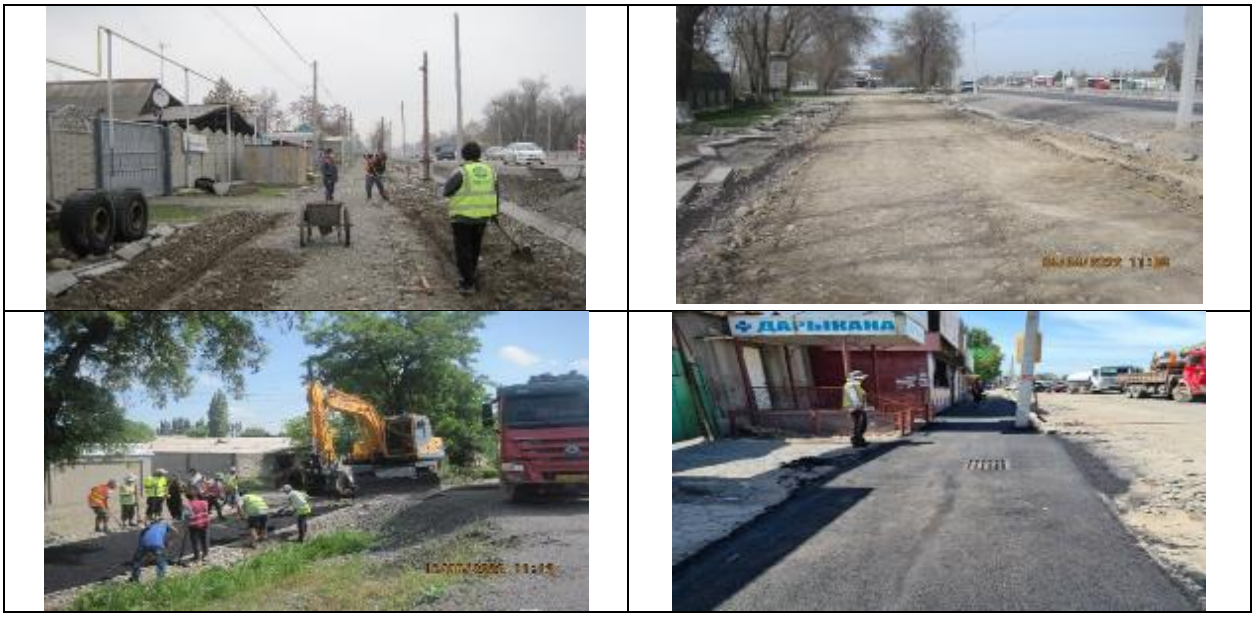

Figure 6 Construction of sidewalks

34. Work continued on the preparation and laying asphalt at junctions to the streets adjacent to the road.

Figure 7 Laying asphalt at junctions to the streets adjacent to the road. Belovodskoe village

35. During the reporting period, work continued on the construction of street lighting which included installation of concrete poles, lamps, overhead cables, and transformers on the 45.1 km section. All necessary materials were delivered to the site for installation. The work was completed in May 2022.

Figure 8 Street lighting works. Installation of lamps

36. During the reporting period, completion works on underpasses were carried out. Walls and steps were covered with the finishing tiles.

Figure 9 Completion of construction works in underpasses

37. Currently adults and children are crossing the road using some of the underpasses.

Figure 10 Underpass in the Novonikolaevka

38. At the Jelamysh River (km 18 + 360), wheel-safety parapet barriers of BO2 type were constructed.

Figure 11 Construction of a wheel-safety parapet barriers at the Jelamysh river

7.4 km section.

39. During the reporting period, the following construction works were carried out on the road section from km 8.5 to km 15.9 (7.4 km section):

- installation of culvert ditches;
- earthworks:
- removal and disposal of excess unsuitable soil and old asphalt,
- rolling and compaction of roadside slopes;
- laying pavement, subbase, and asphalt;
- installation of parapets (small concrete fence/median fences);
- installation of reinforced concrete ditches;
- construction of culvert pipes.

40. Given that this section of the road has heavy traffic flow and there are no bypasses, it was decided to remove the old asphalt, prepare for asphalting and carry out asphalting alternately along the lanes.

Figure 12 Levelling of roadbed in the village of Voenno-Antonovka

41. Soil compaction works based on the instructions of the ADB (letter dated 23.05.2018) were carried out without the use of vibration on all sections of the road, with the exception of section km 15.9 - 19.8 km, where there are no settlements. Supervision over the compliance with this requirement was constantly carried out by the Consultant's inspectors, the construction supervision consultant, and the Consultant's environmental specialist. Vibration control was also carried out by laboratory monitoring.

Figure 13 Rolling, soil compaction, and asphalting of the roadbed at 7.4 km section.

42. Installation of side culvert ditches and "New Jersey" type fences was carried out. Construction of ditches continues.

Figure 14 Construction of culvert pipes

Figure 15 Installation of roadside culvert ditches at 7.4 km section

43. During the reporting period, the removal and disposal of the soil layer, and the removal of asphalt were carried out. The local administration has allocated places where to transport construction waste such as unsuitable soil and removed asphalt.

44. At the direction of local authorities, old asphalt is taken out to the streets indicated by the local administration.

Dust control at the site.

45. On all sections of the project road where construction work is being carried out, dust control works (water sprinkling) are regularly carried out. Dust suppression works are carried out according to an agreed schedule. No complaints for the dust formation from the local residents were recieved. Dust suppression is also regularly carried out on the access road to the production site, on the territory of production site, and on the road to the Ak-Suu 2 borrow pit.

Figure 16 Dust suppression (water sprinkling). The road to the production site and at the road construction site

2.3.2 Borrow pits.

46. Originally, 6 areas were allocated for borrow-pits at the project road (Bishkek – Kara-Balta section, km 15.9 – km 61). The Contractor obtained all necessary permits for the borrow-pits mining from local authorities, the State Committee for Industry, Energy and Subsoil Use and State Agency for Environmental Protection and Forestry (SAEPF). Table 9 provides main information about borrow-pits.

Table 9 Characteristics of 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

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

48. 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 rejected, and the area of Sokuluk-2 borrow-pit was reduced to 1.73 ha.

49. After testing the material quality 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.

50. For mining, a Saz borrow-pit was proposed, which is located on the territory of the Sazskiy ayyl of the Sokuluk district.

51. **Saz borrow-pit**. Currently, the development of the borrow pit has been suspended. A large volume of inert materials has been accumulated in the borrow pit.

52. **Ak-Suu 2 borrow-pit.** To date, a large volume of inert materials accumulated at the borrow pit has been taken to the territory of the production site for crushing and stockpiling. Extraction of inert materials is not carried out.

53. **Jelamysh borrow-pit.** The reclaimed borrow pit was handed over to the Commission in December 2021.

54. **Kara-Balta borrow-pit**. Hand-over of the reclaimed land on the Kara-Balta borrow pit to the reclamation Commission was carried out on August 24, 2021.

55. Ak-Suu1, Ak-Suu2, and Saz borrow pits should be reclaimed before the completion of the project and handed over to the Reclamation Commission.

56. During the reporting period, inert materials were extracted only at the **Belek borrow pit** at km 8.5 - 15.9 (7.4 km section).

57. ***Belek borrow pit.*** On the road section km 8.5 - 15.9, a permit was obtained for temporary use (2 construction years) of a land plot of 10 hectares for the development of a sand and gravel mixture in the village of Belek. The borrow pit is currently being developed.

Figure 17 Development of Belek borrow pit

2.3.3 Plants.

58. Production site is located in 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.

59. The following buildings and structures are located on 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, a platform for the the placement of garbage containers, concrete cesspit pit for sewage.

Figure 18 Production site. Concrete mixing plant. Asphalt Bitumen Plant

Concrete Batch Plant.

60. Area of concrete batch plant is intended for the manufacture of reinforced concrete products. The technological process for the manufacture of reinforced concrete structures, includes the preparation of a concrete mixture and its transportation to the object under construction, its supply, distribution, laying and compaction in the structure, curing of concrete.

61. Various reinforced concrete products are manufactured for usage on the road (concrete rings, ditches, curbs, New Jersey type fences, etc.).

Figure 19 Prepared reinforced concrete structures

Stone-crushing plant.

62. At the production site where plants are located, work is being done to crush sand and gravel raw materials and prepare stocks of materials. Raw materials for production of crushed stone and sand are 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 should be 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.

Figure 20 Stone crushing plant.

Figure 21 Preparation of gravel material for the production of concrete and asphalt

Concrete mixing plant.

63. Concrete mix is prepared at a concrete mixing plant and delivered in the finished stste for the construction. Concrete production involves mixing cement, sand, gravel and water in the right proportions. Transportation of concrete mix from the place of preparation to the place of unloading or directly to the concreting unit is carried out by road.

Figure 22 Filling the concrete mixing machine with concrete

Asphalt bitumen plant.

64. Asphalt mixture is prepared in forced mixing asphalt mixers with periodic action and preliminary drying, heating and dosing of mineral materials. The finished asphalt mixture is loaded into dump trucks and transported to road sections.

Figure 23 Loading of asphalt mixture into dump trucks and unloading into asphalt pavers.

Camps for workers residence.

65. 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 24 Workers ' accommodation camp on the territory of the production site

66. To date, the worker's camp accommodates 25 people. Each room is designed to accommodate two workers. There are kitchen room, equipped place for eating, shower rooms, washbasins, toilets at the camp.

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

2.3.4 Sanitary-hygienic and anti-epidemic requirements in workers' camps.

68. Sanitary and hygienic and anti-epidemic requirements for ensuring favorable living conditions in residential camps have been established in order to preserve the health of workers and contribute to optimizing their life activities. First-aid kits equipped with non-contact thermometers, sanitizers, and necessary medicines have been organized in the camps for specialists and workers of the Contractor, in accordance with ***the Plan of operational measures to prevent the importation and spread of coronavirus infection***. Regular cleaning and disinfection of residential premises are carried out.

69. Based on the current epidemiological situation in the country and the course of mass vaccination, the operational headquarters for combating the spread of coronavirus infection and eliminating its consequences on the territory of Kyrgyzstan decided to cancel the mask regime in Kyrgyzstan from March 12. Personal protective means should only be worn in medical facilities and on public transport.

70. Personnel are warned about the mandatory isolation of persons with high body temperature and signs of an infectious disease. During the reporting period, there were no cases of Covid-19 among the contractor's personnel.

71. In the Sokuluk residential camp, household waste and sewage from septic tanks are removed in a timely manner, and all protective measures for sanitary hygiene are observed. On the territory of the residential camp, all necessary measures for maintenance are observed. The Consultant regularly checks compliance with the environmental requirements.

2.3.5 Tree management.

72. On the road section km 15.9 - km 61, initially the number of trees falling under forced cutting was 5916, but after additional study of the project site, the design of sidewalks was changed, thereby it saved 104 trees. The total number of trees that fell under forced cutting amounted to 5812 pcs.

73. Work on cutting down trees on the section from km 15.9 - km 61 was carried out from 2017 to 2019. The total number of trees that fell under forced cutting amounted to 5812 pcs.

74. Cutting of trees on the project site was carried out in accordance with the legislation of the Kyrgyz Republic, namely, all the necessary permits were obtained from the State Agency for Environmental Protection and Forestry. On the part of the State EcoTechInspection under the GKR, checks were also carried out for the presence of all permits for cutting trees. As compensation measures, to restore the number of green spaces, it is planned to plant new tree seedlings.

75. Tree cutting was carried out in the presence of a representative from aiyl okmotu. All cut trees (trunks and tree stumps) were handed over to the aiyl okmowhichor further use at their discretion. The hand over process is recorded and formalized by the appropriate acceptance act.

76. According to the terms of the current contract between the MOTC KR and China Railway No. 5, the contractor should plant new seedlings to replace the cut trees, as well as carry out

maintenance (watering, replacing dried seedlings with new ones) until the end of the defect's notification period.

77. Starting 2019, the China Railway No. 5 contracting company has started a phased planting of tree seedlings at selected sites in the Petrovka and Poltavka, where the main road works on the construction of sidewalks and the installation of drainage ditches have been completed.

78. To date, 6 125 young seedlings have been planted:

- autumn 2019 - 300 pcs.;
- spring 2020 – 300 pcs.; autumn 2020 - 625 pcs.;
- March 2021 - 315 pcs.; April 2021 - 680 pcs.
- autumn 2021 – 900 pcs.
- March 2022– 1000 pcs
- In April 2022 2000 seedlings were planted.

79. Control and monitoring over the planting of seedlings, watering of seedlings, as well as monitoring of the survival rate of seedlings on an ongoing basis is carried out by the environmental safeguard specialists of the Construction Supervision Company, Contractor company, and representatives of MoTC KR.

Figure 25 Planting seedlings in spring 2022

2.3.6 7.4 km section (km 8,5 – km 15,9).

80. At the road section from km 8.5 to km 15.9, initially 1000 trees were determined for demolition, which located on the areas where road will be widened and areas where the construction/restoration of the sidewalks and drainage system will be carried out. However, this number will be updated as the road axis is completed.

81. As of June 2022, 504 trees have been cut down on this section of the road.

2.3.7 Road maintenance in winter period of 2022.

82. In the winter period of the 1st quarter of 2022, the Contractor carried out road maintenance work.

83. The winter period of the year is the most difficult for the operation of roads and organization of traffic.

84. Winter maintenance is a complex of measures that should ensure uninterrupted and safe movement of cars and includes the following:

- protection of road from snow drifts;
- clearing roads of snow; control of winter slipperiness;
- control of ice.

85. These works are aimed at ensuring uninterrupted and safe movement of vehicles.

Figure 26 Spreading sand on the road. Ice control.

2.3.8 Information about personnel.

86. 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:

Composition of administrative and engineering personnel:

60% - foreign personnel,

40% - local personnel;

Non-qualified working staff:

20% - foreign working staff,

80% - local working staff.

87. In January, 171 people were involved in the Bishkek-Karabalta Road rehabilitation project. In June, 322 people were involved, including 36 people from China and 286 people from local staff.

88. From July to November, the number will be stable at about 300 people, and in winter it is planned to leave about 150 people.

2.4 Description of any project changes.

89. Initially, the length of the project section was 52.5 km (km8.5 – km61). Under an agreement with ADB, it was decided to shorten the project road by 7.4 km and establish the beginning of the project road at km 15.9 instead of km 8.5 of the Bishkek-Osh Road. Thus, the total length of the project road under the contract is currently 45.1 km, the decision to reduce the above section was taken before the tender for civil works. The Detailed Design was prepared by

the previous consultant. Due to savings, in July 2018 MOTC and ADB agreed to add back the road section from km 8.5 to km 15.9. In 2020, the contract was awarded to the contractor China Railway no.5 by direct contract award method.

90. Notice of commencement of work on Section 2 was issued to the contractor on November 19, 2020.

91. 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.

92. However, 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 development of the Sokuluk-1 borrow-pit was refused, and the area of the Sokuluk-2 borrow-pit was reduced to 1.73 ha.

93. 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 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.

94. Saz borrow-pit was proposed, located on the territory of the Sazskiy ayil 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.

95. In 2017, earth works at section 3 in the village of Petrovka were suspended by the ADB until the winter season, due to complaints of the local residents - 17 homeowners at Tsentralnaya Street for vibration coming from construction equipment when compacting materials using vibration, in particular, from rollers.

96. PIU 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.

97. 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.

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

99. 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.

100. During the reporting period, earthworks on the road sections were carried out without vibration. Supervision over the fulfillment of this requirement was constantly carried out by the

inspectors of the Consultant, construction supervision consultant, environmental specialist of the Consultant. Vibration control is also carried out by laboratory monitoring.

101. 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. During the reporting period, the laying of the wearing course on the roadbed using a mix design continued and completed on October 1, 2021.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES.

3.1 General description of environmental safeguard activities.

102. During the reporting period, regular visual monitoring over compliance with environmental requirements during construction work at all sections of the road was carried out by a local environmental specialist, construction supervision consultant TEMELSU, an environmental specialist of the MoTC Projects Implementation Unit, and an environmental specialist of the Contractor.

103. Regular monitoring in 2022 has been started in March 2022. Visual monitoring included one-day visits and inspections of all work sites, borrow pits, workers' camps and plants.

104. With the outbreak of the pandemic in March 2020, the Contractor took additional measures based on the recommendation of the Republican Headquarters for Combating COVID-19 and the Action Plan for the Prevention of the Spread of COVID-19 approved by the Contractor, in particular, the requirements for the mandatory wearing of masks by specialists of the consultant and contractor in offices, the presence of a sanitizer, measurement by the responsible person at the entrance of the body temperature of employees with a contactless thermometer and a survey of the well-being of workers before work, mandatory removal from the workplace of persons with high body temperature and signs of an infectious disease.

105. Based on the current epidemiological situation in the country and the course of mass vaccination, the Operational Headquarters for Combating the Spread of Coronavirus Infection and Eliminating Its Consequences on the Territory of Kyrgyzstan decided to cancel the mask regime in Kyrgyzstan from March 12. Personal protective equipment should only be worn in medical facilities and public transport.

106. Personnel are warned about the mandatory isolation of persons with elevated body temperature and signs of an infectious disease. During the reporting period, there were no cases of Covid-19 among the contractor's personnel.

3.1.1 Road construction works.

107. The Operational Headquarters for Combating the Spread of Coronavirus Infection and Eliminating Its Consequences on the Territory of Kyrgyzstan decided to cancel the mask regime in Kyrgyzstan from March 12. Personal protective means should only be worn in medical facilities and public transport.

108. Personnel are warned about the mandatory isolation of persons with high body temperature and signs of an infectious disease. During the reporting period, there were no cases of Covid-19 among the contractor's personnel.

109. The main impact on the environment during excavation work in the previous periods was increased dust formation. In the reporting period, there were only single cases of dust formation, about which the Contractor was immediately warned. Wate sprinkling on the road, including shoulders, in the construction sites was carried out from 7 am to 8 pm without a lunch break. The contractor has drawn up a schedule for watering the road with an indication of the interval between watering of 30 minutes. Considering the small scope of work on the road and the fact that several watering machines were operating on the construction sites, which managed to water the road in time, the facts of increased dust formation were rarely observed at the construction sites. No

complaints were received from the local population and local self-government bodies during the reporting period.

Figure 27 Water sprinkling works. Road to the production site and at the road construction site in the Voenno-Antonovka

110. On the previously constructed sections of the road, the installation of culvert ditches, bus stops and sidewalks were carried out, also work was carried out on strengthen the parapets of "New Jersey" type, leveling the shoulders, and installation of street lighting poles, and application of road marking.

111. Work on the installation, cleaning and strengthening the parapets of "New Jersey" type included welding work, concreting cut on the carriage way between the parapets. During the monitoring, it was found that on the road shoulders, where work was carried out to strengthen the parapets, the soil waste remained uncollected in the form of small piles. Under the impact of atmospheric precipitation, the waste was eroded and polluted the surrounding area. A letter was sent to the contractor to fix this violation with an indication of deadlines. In due time, the soil waste on the shoulders was collected and removed. Further, the soil accumulated near the parapets was cleaned and removed in a timely manner.

Figure 28 Cleaning of area near parapets from earth waste and removal of waste from the road

112. During the reporting period, work was also carried out on installation and cleaning the stones and debris on the previously installed culvert ditches.

Figure 29 Cleaning of side culvert ditches

113. Welding work was carried out on the parapets, and concreting cut on the passages between the parapets.

Figure 30 Works on concreting cut on passages between parapets

114. During the reporting period, completion works were carried out on the underpasses. The walls and steps were covered with finishing tiles.

115. In the center of the Sokuluk, near the underpass under construction, a large amount of construction waste remained uncollected. Incorrectly laid paving stones are already cracked.

Before After

Figure 31 The underpass under construction in the center of the Sokuluk

116. Also, construction waste was not removed, and the territory was not leveled near the underpass located opposite the school in the village of Novonikolaevka.

Figure 32 Construction waste around the underpass located near the school in the village of Novonikolaevka.

117. The area around the underpass near the school in the Novonikolaevka (km 59+640) is in an unsatisfactory condition. It was difficult for students to go down to this underpass, especially in icy conditions, which could cause falls and injuries. A letter was sent to the contractor to fix these violations. Violations were not fixed within the given deadlines.

118. A trench has been dug around the underpass to divert storm water, which complicates the approach to the underpass. It is difficult for residents to go down to this underpass, which can cause falls and injuries.

Figure 33 Violations near the underpass located opposite the school in the village of Novonikolaevka

119. A letter was sent to the contractor, untill May 15th, to install drainage ditches with covering slabs in order to drain stormwater, to remove construction waste, level the area, make a gentle descent to the underpass. But so far, the violations have not been eliminated.

120. Adults and children are currently crossing the road using some of the underpasses.

Figure 34 Underpass in the Sokuluk

117 Near the Jelamysh River (km 18 + 360), wheel-safety parapet barriers of BO2 type were constructed. After the completion of the construction work, a large amount of soil, construction waste, and reinforced concrete structures remained in the Jelamysh riverbed.

Figure 35 Construction waste in the Jelamysh river

121. A letter was sent to the contractor, as soon as possible, to remove all construction waste from the riverbed.

3.1.2 Borrow pits.

122. **Belek borrow pit.** During the reporting period, the extraction of inert materials was carried out only at the Belek borrow pit at km 8.5 - 15.9 section (km 7.4 section). The material was delivered directly to the construction of the road for levelling.

Figure 36 Development of Belek borrow pit.

3.1.3 Production sites.

123. 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 value of the filtration coefficient. To exclude soil contamination on the production site with bitumen and other chemical reagents that can get into the underground aquifer, the contractor was given clear instructions on the need to immediately clear the areas of bitumen and other chemical reagents leaks. This issue is under constant control by the Consultant.

124. During the operation of the plant, all soil around the containers with chemicals should be protected from leaks and spills of hazardous materials with an impervious protective coating.

125. The contractor was recommended to protect the soil around the tanks with chemical reagents from spills and leaks of hazardous materials with an impenetrable protective coating. These recommendations were taken into account and implemented by the Contractor.

	
Before	After

Figure 37 Impermeable protective coating around chemical containers.

Activities on the area where plants ae located.

126. At the production site where plants are located, work was carried out to crush sand and gravel raw materials and prepare stocks of materials.

127. During the reporting period, the stone crushing plant operated on moistened raw materials without dusting.

Figure 38 Operation of a stone crushing plant on moistened raw materials


Figure 39 Prepared gravel material for concrete and asphalt production

128. At the production site, manufacture of welded reinforcing meshes, frames for the production of reinforced concrete structures, pouring of various reinforced concrete products for the road needs (concrete rings, ditches, curbs, New Jersey-type fences, etc.) was also carried out. Workers are not provided with sufficient personal protective equipment.


Figure 40 Production of reinforcing welded meshes, frames for the production of reinforced concrete structures

129. Concrete mix is prepared at a concrete mixing plant and delivered in finished state for the construction. Transportation of concrete mix from the place of preparation to the place of unloading or directly to the concreting unit is carried out by concrete mixer trucks.

Figure 41 Refueling of concrete mixer trucks

130. Washing of concrete mixers is carried out on a specially designated area. The flushing water is discharged into a special three-section sump. Further, the flushing water, after settling, is used for water-sprinkling the area of the production site.

Figure 42 Washing of concrete mixer trucks.

Figure 43 Watering of the production site with flushing water.

131. During the reporting period, the concrete mix was mainly used for the manufacture of reinforced concrete structures. Technological process for the manufacture of reinforced concrete structures, includes the preparation of a concrete mixture and its transportation to the object under construction, its supply, distribution, laying and compaction in the structure, curing of concrete.

132. Various reinforced concrete products are manufactured for usage on the road (concrete rings, dithces, curbs, New Jersey type fences, etc.).

Camps for workers residence.

133. 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 44 . Workers' accommodation camp on the territory of the production site

134. The worker's camp accommodates 50 people. Each room is designed to accommodate two workers. There are kitchen room, equipped place for eating, shower rooms, washbasins, toilets at the camp.

135. In the new camp sewage water is discharged into an existing septic tank by pipelines. 2 fire shields were installed in the camp.

Figure 45 Fire shields on the territory of the camp


Figure 46 Dining and kitchen area.

136. 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.

137. During monitoring at the workers' camp, it was found that two out of four fire extinguishers were out of order, out of date, it was necessary to recharge or purchase new ones.


Figure 47 Fire extinguishers installed with violations on the territory of the production site.

3.1.4 Workers’ camp in the Sokuluk.

138. It is noted that the operational headquarters for combating the spread of coronavirus infection and eliminating its consequences in the territory of Kyrgyzstan decided to cancel the mask regime in Kyrgyzstan from March 12. Personal protective equipment should only be worn in medical facilities and public transport.

139. Sanitary and hygienic and anti-epidemic requirements for ensuring favorable living conditions in residential camps have been established in order to preserve the health of workers and contribute to optimizing their life activities. First-aid kits equipped with non-contact thermometers, sanitizers, and necessary medicines have been organized in the camps for specialists and workers of the Contractor, in accordance with the ***Plan of operational measures to prevent the importation and spread of coronavirus infection***. Regular cleaning and disinfection of residential premises are carried out.

140. Personnel are warned about the mandatory isolation of persons with high body temperature and signs of an infectious disease. During the reporting period, there were no cases of Covid-19 among the contractor's personnel.

141. In the Sokuluk residential camp, household waste and sewage from septic tanks are removed in a timely manner, and all protective measures for sanitary hygiene are observed.

3.1.5 Tree management.

142. The total number of trees that fell under forced cutting amounted to 5812 pcs.

143. The planting of seedlings to replace the cut down trees was planned to start in the autumn of 2018, but given that no culverts and sidewalks were completed at any construction site, the planting of seedlings was not carried out.

144. The Consultant's environmental specialist together with the Contractor's environmental specialist, checked seedlings in several nurseries located in the Chui region. The highest quality and most suitable seedlings were the seedlings of the Peasant Farm "Pitomnik Zherdevyh".

145. Since 2019, the China Railway No. 5 contracting company has started a phased planting of tree seedlings at selected sites in the villages of Petrovka and Poltavka, where the main road works related to the construction of sidewalks and installation of drainage ditches have been completed.

146. For the reporting period, 6 125 young seedlings were planted:

Figure 48 Planting seedlings in March 2022

147. To date, there are practically no places left on the project road for planting new seedlings. Local administration (ayil okmotu) suggested places for planting seedlings located at a distance of 1-2 km from the project road. These are two places near water intakes in the Poltavka village.

Watering of seedlings is carried out by residents of local ayil okmotu. Also, from some aiyl okmotus and the mayor's office of Kara-Balta requests were received to provide them with seedlings for planting in organized park areas that are located on their territory, while they will undertake further work on planting and care.

148. Control and monitoring over the planting of seedlings, watering of seedlings, as well as monitoring of the survival rate of seedlings on an ongoing basis is carried out by the environmental safeguard specialists of the Construction Supervision Company, Contractor company, and representatives of MoTC KR.

149. Prior to completion of the project, the Contractor shall plant the remaining part of the seedlings, in accordance with the requirements of the Legislation of the Kyrgyz Republic, the requirements of the SEMP and EIA, as part of the implementation of the requirements of the ADB Safeguards Policy. To carry out these works, it is necessary during the summer period, together with local ayil okmotu, to determine places for planting seedlings.

150. When monitoring the survival rate of seedlings in the village of Poltavka, it was found that the seedlings are in critical condition. A large number of cows, goats and sheep are grazed in the places where seedlings are planted. As a result, young shoots on seedlings are eaten by animals. A large number of seedlings are broken by children. According to representatives of the local aiyl okmotu, despite holding constant explanatory conversations with the population, grazing continues.

Figure 49 Livestock grazing on the plots of planted seedlings in the villages of Poltavka and Petrovka

7.4 km section

151. At the road section from km 8.5 to km 15.9, initially 1000 trees were determined for demolition, located on the areas where road will be widened and areas where the construction/restoration of the sidewalks and drainage system will be carried out. However, this number will be updated as the road axis is completed.

152. In December 2020, on this section of the road 321 trees have been cut down. The trees were cut down out near the “Azamat” car market area. Cutting in this section was carried out mostly on the southern side of the road, where the roadbed is being widened.

153. In September 2021, trees at 7-4 km section (Voenno-Anonovka and Novopavloka villages) were recorded and marked. 183 trees were cut down, the documents for cutting down trees were approved by the environmental authorities. The trees cut down has been started in December 2021.

154. As a result of the first half of 2022, 504 trees were cut down on this section of the road.

3.2 Site audits.

155. Regular monitoring over compliance with the requirements of environmental legislation during construction work on the Bishkek-Karabalta Road started in March 2022. During the reporting period, 32 site visits to the project road were conducted.

Table 10 Monitoring of construction sites in March 2022.

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	01.03	T. Volkova.	Monitoring of construction sites	Monitoring of construction sites. Visit to the places of storage of unsuitable soil at the 7.4 km section
2	03.03	T. Volkova. K. Uzbekov	Selection of seedlings.	Visit to the seedling nursery "Zherdev sad" for the selection of seedlings
3	04.03	T. Volkova.	Selection of seedlings.	Visit to the seedling nursery "Zelenaya zhizn" for the selection of seedlings
4	07.03	T. Volkova. K. Uzbekov	Monitoring of construction sites	Monitoring of construction sites. Meeting with the Contractor. Discussing problems with planting seedlings.
5	09.03	T. Volkova. K. Uzbekov	Monitoring of construction sites	Selection of places for planting seedlings in the Poltavka village
6	14.03		Monitoring of construction sites	Selection of places for planting seedlings in the Petrovka village
7	17.03	T. Volkova. K. Uzbekov	Monitoring of construction sites	Monitoring of construction sites. Visit to the proposed places for storage of unsuitable soil at the 7.4 km section
8	22.03	T. Volkova.	Monitoring of construction sites	Visit to the Belek borrow pit together with the Contractor's environmental specialist
9	28.03	T. Volkova.	Monitoring of construction sites	Visit to the Ak-Suu2 borrow pit. Meeting with the Contractor. Discussion of environmental issues.
10	31.03	T. Volkova. K. Uzbekov	Monitoring of construction sites	Monitoring of construction sites. Visit to the place for planting seedlings in the Poltavka village

Table 11 Monitoring of construction sites in April 2022

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	04.04	T. Volkova. K. Uzbekov	Monitoring of construction site together with Contractor's environmental specialist	Monitoring of construction sites. Visit to the place for planting seedlings in the Poltavka village
2	06.04	T. Volkova. K. Uzbekov	Monitoring of construction site together with Contractor's environmental specialist	Monitoring of construction sites. Visit to the areas of storage of unsuitable soil at the 7.4 km section
3	11.04	T. Volkova. K. Uzbekov	Monitoring of construction site together with Contractor's environmental specialist	Monitoring of construction sites. Visit to the place for planting seedlings in the Petrovka village
4	14.04	T. Volkova	Monitoring of construction sites	Monitoring the condition of previously constructed culvert pipes and ditches. Identified violations. Meeting with the Contractor. Discussion of environmental problems.
5	18.04	T. Volkova	Monitoring of construction sites	Seedlings are poorly watered. It is necessary to carry out regular watering of seedlings every 3 days. A verbal warning to the Contractor given
6	21.04	T. Volkova. K. Uzbekov	Monitoring of construction sites	Monitoring of construction sites. Visit to the areas of storage of unsuitable soil at the 7.4 km section
7	28.04	T. Volkova. K. Uzbekov	Joint visit with ProfiLab LLC laboratory	Participation in laboratory monitoring of noise and vibration
8	29.04	T. Volkova. K. Uzbekov	Monitoring of construction sites	Visit to the Belek borrow pit together with the Contractor's environmental specialist

Table 12 Monitoring of construction sites in May 2022

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	10.05	T. Volkova. K. Uzbekov	Monitoring of construction site together with Contractor's environmental specialist	Monitoring of all construction sites. The problem of watering seedlings in the Poltavka village
2	12.05	T. Volkova	Monitoring of construction sites	Monitoring of storage places for old asphalt and unsuitable soil on the project road
3	16.05	T. Volkova. K. Uzbekov	Monitoring of construction sites	Monitoring of construction objects. Together with the Contractor's environmental specialist.

				Installation of culvert ditches. Checking compliance with safety precautions when installing culvert ditches.
4	19.05	T. Volkova. K. Uzbekov	Monitoring of construction sites	Visit to the Belek borrow pit together with the Contractor's environmental specialist
5	23.05	T. Volkova	Monitoring of construction sites	Monitoring of storage places for old asphalt and unsuitable soil at 7.4 km section
6	26.05	T. Volkova. K. Uzbekov	Monitoring of construction sites	Visit to the territory of the production site and the Ak-Suu2 borrow pit together with the Contractor's environmental specialist
7	30.05	T. Volkova	Monitoring of construction sites	Monitoring of all construction sites. The problem of watering seedlings in the Petrovka village.

Table 13 Monitoring of construction sites in June 2022

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	02.06	T. Volkova. K. Uzbekov	Monitoring of construction site together with Contractor’s environmental specialist	Monitoring of construction sites. Meeting with the Contractor. Discussing problems with seedlings due to livestock grazing.
2	06.06	T. Volkova. K. Uzbekov	Monitoring of construction sites	Visit to the Belek borrow pit together with the Contractor's environmental specialist
3	09.06	T. Volkova	Monitoring of construction sites	Monitoring of all construction sites. Monitoring of storage places for old asphalt and unsuitable soil at 7.4 km section
4	13.06	T. Volkova. K. Uzbekov	Monitoring of construction sites	Visit to the territory of the production site together with the Contractor's environmental specialist
5	16.06	T. Volkova. K. Uzbekov	Monitoring of construction sites	Joint visit to the project road with ADB and PIU representatives
6	23.06	T. Volkova	Monitoring of construction sites	Monitoring of all construction sites. Visit to the production site where plants are located
7	30.06	T. Volkova	Monitoring of construction sites	Monitoring of all construction sites. Collection of information for the semi-annual report

3.3 Issues tracking (based on the list of non-compliance.

156. During the reporting period, if environmental issues were noted, a warning was initially issued to the Contractor with a specified deadline. If the Contractor did not eliminate the identified environmental issue, a letter was sent. Basically, all problems were resolved in a timely manner.

Table 14 Report on non-compliance with environmental requirements (January- June 2022)

No	The issue of non-compliance, defined by Temelsu	CEMWP Number and date of notification Temelsu	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Temelsu Inspection	Status as of June 30, 2022
1	**Unsatisfactory condition of underpasses**	**CEMWP № 2.9.4** 0541BOC3 55/3350-00512 dd 29.04.22	Annex 4 Safety, health and hygiene	The area around the underpass near the school in the Novonikolaevka village (km 59+640) is in unsatisfactory condition. A trench has been dug around the crossing to drain storm water, which complicates the approach to the underpass. It is difficult for residents to go down to this crossing, which can cause falls and injuries.	The contractor has until May 15 to complete the drainage near the underpass. **Not completed**		Specified non-compliances were addressed
2	**The problem of planted seedlings**	**CEMWP № 2.5.1** 0541BOC3/55-3350-00516 dd 13.05.22	Annex 10 Tree Management Plan	It is necessary to allocate a permanent watering machine for watering seedlings, which will only water seedlings, and to appoint a driver responsible for watering. Conduct an explanatory conversation with driver that watering should be plentiful and regular.	Letter No. CAREC-G0895 dated May 18, 2022, a permanent watering machine was allocated for watering seedlings **Completed**	The car is allocated. Watering is controlled by the Contractor's environmental expert	Watering is done regularly

No	The issue of non-compliance, defined by Temelsu	CEMWP Number and date of notification Temelsu	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of Temelsu Inspection	Status as of June 30, 2022
3	**Unsatisfactory condition of underpasses**	**CEMWP № 2.9.4** 0541BOC3 55/3350-00528 dd 03.06.22	Unsatisfactory condition of underpasses	Around the underpass in the Sokuluk village has accumulated a large amount of construction waste, which should be removed urgently.	Letter No. CAREC-G0902 dated 06/06/2022 Construction waste removed **Completed**	Construction waste removed	Construction waste removed
4	**Construction waste problem**	**CEMWP № 2.6.2** 0541BOC3 55/3351-00536 dd 30.06.22	Annex 5. Waste Management Plan	After the completion of construction work, a large amount of soil, construction waste, and reinforced concrete structures remained in the riverbed of the Jelamysh River.	The deadline is July 11		

3.3.1 Overview and description of issues tracking during the current period.

157. During the reporting period, Temelsu's national environmental specialist conducted regular monitoring over compliance with the requirements of the EMP and CEMWP during construction work on the Bishkek-Kara-Balta Road section. The specialist visited the site 32 times. Some visits were combined with the Contractor's environmental specialist. The CEMWP prepared by the contractor was used as a checklist.

158. Environmental specialists of PIU MoTC conducted separate inspections focusing on specific issues, such as safety during construction work, local complaints, and seedling planting.

3.3.2 Issues tracking.

159. 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 and caring of seedlings;
- Borrow-pit mining and management;
- Material's manufacturing plant;
- Disposal of old asphalt;

3.3.3 Summary of issues tracking.

160. During the same period in 2019, 21 non-compliance issues were recorded and 17 of them were resolved during the reporting period. During the same period in 2020, 11 non-compliance issues were recorded and 10 of them were resolved during the reporting period. In this reporting period, 4 non-compliance issues were reported and all were resolved. The number of noncompliance letters is getting smaller every year. This is due to the fact that the main construction work on the project road has already been completed and the most of the identified noncompliances were discussed verbally with the Contractor. The date of implementation was discussed, including the definition of mitigating measures that should be applied to solve the identified problem and, if the violation was not eliminated on time, a letter was sent.

161. The issues noted in the non-compliance letters are mostly repeated in each reporting period. The contractor must take into account the shortcomings in the management of these issues in the further work. The reason for the large number of non-compliance issues is that, although a specific problem was resolved within a specified period, the same non-compliance was repeated in the future, such as in relation to waste management, safety violations during construction work.

Tabe 15 Summary of problem monitoring activities in the current period

Non-compliance	January - June 2022	Total
Total	4	4
Significant & resolved	4	3
Unresolved	1	1
Pending	0	0
Chronic and unaddressed	0	0
Minor issues	0	0

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted During Current Period

162. In 2019, the consultant transferred the environmental monitoring functions to the Contractor. To monitor environmental components such as atmospheric air quality, surface water quality, noise impact, vibration impact during the construction period at the Bishkek –Kara-Balta Road section. In the first half of 2022, the Contractor concluded contracts with the following laboratories:

- **Air Quality:** Environmental Monitoring Department of SAEPF (State Agency for Environment Protection and Forestry of the Kyrgyz Republic) under the GKR;
- **Noise impact:** Private laboratory LLC «ProfiLab»;
- **Vibration impact:** Private laboratory LLC «ProfiLab».

163. After the conclusion of agreements, applications were submitted for the measurement of vibration, noise and air sampling at the sites where construction equipment operates. Monitoring of surface water quality was impractical, since construction work on the rivers was not carried out and during the reporting period there was practically no water in the rivers.

4.1.1 Monitoring of noise and vibration levels

164. On April 29, 2022, a specialist of the ProfiLab operational laboratory, in the presence of the Contractor's and the Consultant's environmental specialists, measured the noise and vibration levels at the road construction sites. The measurements were conducted using "Ecophysics - 110A" device.

Name of measuring instrument	Number	Verification certificate		Verified before
		Number	Date	
Ecophysics – 110A	AB 130044	0053	15.03.2022	12 month

165. Regulatory documentation in accordance with which the measurements were carried out: GOST 313119-2006 "Vibration. Measurement of general vibration and assessment of its impact on a person. Requirements for measurements at workplaces".

166. Regulatory documentation for standards: Sanitary standards 2.2.4./2.1.8.566-96 "Industrial vibration in rooms, residential and public buildings". Environmental conditions: temperature: 18˚C, humidity: 54%, atmospheric pressure: 704 mm Hg.

Figure 50 Noise measurement points

Table 16 Noise measurement protocol in the morning time

No	Location	nature of the noise						Sound pressure levels in dB in octave bands with geometric mean frequencies in Hz									Sound level (dBA)
		By spectrum		By time interval													
		wideband.	voice-frequency	Constant	waver	pulsed	Transient	31,5	63	125	250	500	1000	2000	4000	8000	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Novonikolaevka, next to the school 59+55 km, time 10:00 am																
	Latitude: 42o 50′16″; Longitude: 73o55′19″. Background noise level.																
1	Leq							67	72	66	65	65	61	57	54	44	**66 actual**
	Slow max																**75**
	Poltavka, next to the school 55+380 km., south side of the road time: 10:15 am																
	Latitude:42°50′16 Longitude:73°55′19. Background noise level																
2	Leq							75	73	68	63	63	61	58	51	44	**65 actual**
	Slow max																**78**
	Belovodskoye, next to the house No. 201 42 + 450 km., Northern side of the road, time 10:40																
	Latitude:42°50′3” Longitude:73°6′7”. Background noise level.																
3	Leq							68	79	71	67	66	64	61	54	47	**69 actual**
	Slow max																**80**
	Sokuluk, storey buildings 26+240 km, time 11:05 am																
	Latitude:42°51′25” Longitude:74°17′39”. Background noise level																
4	Leq							76	75	67	62	65	60	56	53	46	**66 actual**
	Slow max																**79**
	Gavrilovka, next to the kindergarten 21+500, time 11:20 am																
	Latitude:42°51′55” Longitude:74°21′02”. Background noise level																
5	Leq							76	71	67	65	66	67	68	58	46	**74 actual**
	Slow max																**79**
	Voenno-Antonovka, next to the post office, time 11:45 am																
	Latitude:42°52’24” Longitude:74°26’43”. equipment is turned off																
6	Leq							72	70	66	62	58	59	56	54	46	**65 actual**
	Slow max																**76**
	Voenno-Antonovka, next to the post office, time 12:45 pm																
	Latitude:42°52’24” Longitude:74°26’43”. Equipment is operating																
7	Leq							78	74	73	73	71	67	61	61	49	**76 actual**
	Slow max																**83**
	Voenno-Antonovka, next to the post office, time 1:05 pm																
	Latitude:42°87’27” Longitude:74°44’22”. equipment is turned off																

8	Leq							68	74	67	64	62	60	58	52	41	**61 actual**
	Slow max																**71**

Table 17 Noise measurement protocol during afternoon time

No	Location	nature of the noise						Sound pressure levels in dB in octave bands with geometric mean frequencies in Hz									Sound level (dBA)
		By spectrum		By time interval													
		wideband.	voice-frequency	Constant	waver	pulsed	Transient	31,5	63	125	250	500	1000	2000	4000	8000	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Voenno-Antonovka, next to the post office, time 1:35 pm																
	Latitude:42°87'27" Longitude:74°44'22". Equipment is operating																
9	Leq							75	83	74	73	71	71	68	66	48	**78 actual**
	Slow max																**85**
	Novonikolaevka, next to the school 59+55 km, time 2:30 pm																
	Latitude: 42° 50'16"; Longitude: 73°55'19". Background noise level																
10	Leq							71	73	66	66	65	64	60	56	49	**69 actual**
	Slow max																**76**
	c. Poltavka, next to the school 55+380 km., south side of the road 2:50 pm																
	Latitude:42°50'16 Longitude:73°55'19. Background noise level																
11	Leq							76	72	65	65	64	63	59	53	46	**67 actual**
	Slow max																**77**
	Belovodskoye, next to house No. 201 42 + 450 km., North side of the road, time 3:20 pm																
	Latitude:42°50'3" Longitude:73°6'7". Background noise level																
12	Leq							68	79	71	67	66	64	61	54	47	**69 actual**
	Slow max																**80**
	Sokuluk, storey buildings 26+240 km, time 3:50 pm																
	Latitude:42°51'25" Longitude:74°17'39". Background noise level																
13	Leq							77	77	67	66	65	62	59	56	48	**70 actual**
	Slow max																**81**
	Gavrilovka, next to the kindergarten 21+500, time 4:10 pm																
	Latitude:42°51'55" Longitude:74°21'02". Background noise level																

14	Leq							77	76	68	68	66	67	69	59	48	**76 actual**
	Slow max																**81**
	cVoenno-Antonovka, next to the post office, time 4:30 pm																
	Latitude:42°52'24" Longitude:74°26'43". equipment is turned off																
15	Leq							72	71	66	64	58	58	58	55	45	**66 actual**
	Slow max																**75**
	Novonikolaevka, next to the school 59+55 km, time 5:30 pm																
	Latitude: 42° 50'16"; Longitude: 73°55'19". Background noise level																
16	Leq							76	77	67	66	64	63	59	57	48	**70 actual**
	Slow max																**80**

Table 18 Noise measurement protocol during evening time

No	Location	nature of the noise						Sound pressure levels in dB in octave bands with geometric mean frequencies in Hz									Sound level (dBA)
		By spectrum		By spectrum													
		wideband.	voice-frequency	Constant	waver	pulsed	Transient	31,5	63	125	250	500	1000	2000	4000	8000	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Poltavka, next to the school 55+380 km., south side of the road time: 5:50 pm																
	Latitude:42°50'16 Longitude:73°55'19. Background noise level.																
17	Leq							67	79	70	67	66	65	61	54	48	**69 actual**
	Slow max																**76**
	Belovodskoye, next to the house No. 201 42 + 450 km., Northern side of the road, time 6:10 pm																
	Latitude:42°50'3" Longitude:73°6'7". Background noise level.																
18	Leq							72	71	70	67	66	63	61	55	48	**71 actual**
	Slow max																**80**
	c. Sokuluk, storey buildings 26+240 km, time 6:40 pm																
	Latitude:42°51'25" Longitude:74°17'39". Background noise level.																
19	Leq							76	79	71	68	65	65	62	56	49	**72 actual**
	Slow max																**80**
	c. Gavrilovka, next to the kindergarten 21+500, time 7:00 pm																
	Latitude:42°51'55" Longitude:74°21'02". Background noise level.																
20	Leq							77	76	72	68	66	69	68	57	50	**76 actual**
	Slow max																**81**
	Voenno-Antonovka, next to the post office, time 7:30 pm																
	Latitude:42°52'24" Longitude:74°26'43". Background noise level.																
21	Leq							74	72	68	67	59	61	62	55	47	**69 actual**
	Slow max																**78**

167. **Conclusion on the results of measurements:** At the time of the measurements, the background noise level at the measured points during the passage of vehicles near the road was up to 76 dBa in the daytime. During the operation of vehicles and construction equipment of the Contractor, the noise level at the measured points is from 76 dBa to 78 dBa.

Figure 51 Vibration measurement points

Table 19 Vibration measurement protocol

No	Location	Type of vibration				Sound pressure levels in dB in octave bands with geometric mean frequencies in Hz						Adjusted and equivalent adjusted values and their levels	
		Total			Local							frequency correction W_m (dB)	
		Transport	Transport and technological	Technologicale cargo		2	4	8	16	31,5	63		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Voenno-Antonovka, next to the post office, time 11:55 am													
Latitude:42°52'24" Longitude:74°26'43". Equipment is turned off													
1	Leq		+			81	74	68	64	58	56	**88**	Vibration level
	Slow max											95	Max. level
Voenno-Antanovka, next to the post office, time 12:05 pm													
Latitude:42°52'24" Longitude:74°26'43". Equipment is operating													
2	Leq		+			81	75	66	64	57	58	**91**	Vibration level
	Slow max											96	Max. level
Voenno-Antanovka, next to the post office, time 12:15 pm													
Latitude:42°52'24" Longitude:74°26'43". Roller is operating													
3	Leq		+			97	93	90	96	60	56	**93**	Vibration level
	Slow max											98	Max. level
Voenno-Antanovka, next to the post office, time 1:15 pm													
Latitude:42°87'27" Longitude:74°44'22". Equipment is turned off													
4	Leq		+			77	74	71	77	73	68	**76**	Vibration level
	Slow max											87	Max. level
Voenno-Antanovka, next to the post office, time 1:25 pm													
Latitude:42°87'27" Longitude:74°44'22". Excavator is operating.													
5	Leq		+			105	87	67	70	69	63	**86**	Vibration level
	Slow max											92	Max. level
Voenno-Antanovka, next to the post office, time 1:45 pm													
Latitude:42°87'27" Longitude:74°44'22". Equipment is operating													
6	Leq		+			79	75	70	72	71	65	**78**	Vibration level

	Slow max											88	Max. level

168. **Conclusion based on the results of measurements:** According to the results of instrumental measurements, the vibration level during the operation of vehicles and equipment of the Contractor ranges from 78 dB to 93 dB. The background vibration level is between 76 dB and 88 dB.

Figure 52 Conducting noise and vibration monitoring.

169. On July 07, 2022, the specialists of the laboratory of the Department for Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic, in the presence of the Contractor's and the Consultant's environmental specialists, took samples to determine pollutants in the atmospheric air in the places where construction equipment operates on the road.

Table 20 Air quality measurement protocol

Sampling point numbers	sampling points	Air sampling conditions									Name of the determined indicator	Test result, mg//м^3		Survey method ology
		weather factors				distance, m, cm		selection time, hour. min		aspiration rate, l/min				
		temperature, °C thermometer readings		relative humidity, %	movement speed	from the floor	from the source of pollution	Start	finish			detected concentration with uncertainty	MPC*, mg/, m^3	
		dry	wet											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Novopavlovka Near a residential building	33,5	21,5	28		1,5 meters		09^{10}	09^{15}		CO) *Carbon monoxide	2,6 2.4 2,4	20	* GANK -4
	Novopavlovka Near a residential building	33,5	21,5	28		1,5 meters		09^{20}	09^{25}		(SO2) *Sulfur oxide	1,0 1,0 1,0	10	* GANK -4
	Novopavlovka Near a residential building	33,5	21,5	28		1,5 meters		09^{40}	09^{45}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60
2	Voenno-Antonovka Near a residential building	34,0	20,5	28		1,5 meters		10^{10}	10^{15}		CO) *Carbon monoxide	2,4 2.1 2,1	20	* GANK -4
	Voenno-Antonovka Near a residential building	34,0	20,5	28		1,5 meters		10^{20}	10^{25}		(SO2) *Sulfur oxide	1,0 1,0 1,0	10	* GANK -4

	Voenno-Antonovka Near a residential building	34,0	20,5	28		1,5 meters		10^{35}	10^{40}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60
3	Voenno-Antonovka Near a residential building Mosque	33,0	20,5	31		1,5 meters		11^{20}	11^{25}		CO) *Carbon monoxide	0,8 0.8 0,8	20	* GANK -4
	Voenno-Antonovka Near a residential building Mosque	33,0	20,5	31		1,5 meters		11^{30}	11^{35}		(SO2) *Sulfur oxide	1,3 1,3 1,3	10	* GANK -4
	Voenno-Antonovka Near a residential building Mosque	33,0	20,5	31		1,5 meters		11^{40}	11^{45}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60
4	Gavrilovka Kindergarten №13	28,0	14,5	20		1,5 meters		12^{00}	12^{05}		CO) *Carbon monoxide	1,3 1.3 1,3	20	* GANK -4
	Gavrilovka Kindergarten №13	28,0	14,5	20		1,5 meters		12^{10}	12^{15}		(SO2) *Sulfur oxide	1,2 1,3 1,3	10	* GANK -4
	Gavrilovka Kindergarten №13	28,0	14,5	20		1,5 meters		12^{20}	12^{25}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60

5	Shopokov School gymnasium №2	30,0	16,5	23		1,5 meters		13^{10}	13^{15}		CO) *Carbon monoxide	0,6 0.4 0,4	20	* GANK -4
	Shopokov School gymnasium №2	30,0	16,5	23		1,5 meters		13^{20}	13^{25}		(SO2) *Sulfur oxide	1,4 1,4 1,5	10	* GANK -4
	Shopokov School gymnasium №2	30,0	16,5	23		1,5 meters		13^{30}	13^{35}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60
6	Novopavlovskiy ayil okmotu	29,0	15,5	21		1,5 meters		13^{45}	13^{50}		CO) *Carbon monoxide	0,6 0.4 0,4	20	* GANK -4
	Novopavlovskiy ayil okmotu	29,0	15,5	21		1,5 meters		13^{55}	14^{00}		(SO2) *Sulfur oxide	1,4 1,4 1,5	10	* GANK -4
	Novopavlovskiy ayil okmotu	29,0	15,5	21		1,5 meters		14^{05}	14^{10}	0,2	Vapors of nitrogen dioxide	< 0,6 < 0,6	2	Guidelines for the determination of harmful substances "Morflot", p.60

GANK-4 portable universal gas analyzers

Permissible concentration limit in accordance with Appendix No. 18 of the PP KR No. 201 dated April 11, 2016 GN: "Maximum Permissible Concentrations of Harmful Substances in the Air of the Working Area"

Figure 53 Air quality monitoring

170. Conclusions: Analyzing the data of the monitoring results of environmental components, 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 impact of construction work on the environment, it is necessary to take into account indicators of background levels.

171. After analyzing the data of the monitoring results, it can be noted that, taking into account the data of background levels, construction works do not have a significant impact on the environment.

4.2 Trend.

172. During the second half of 2022, it is planned to conduct monitoring of atmospheric air quality, noise impact and, if necessary, vibration in areas where construction work will take place. Construction work on the bridges has been completed, so monitoring of surface water quality is not necessary.

4.3 Summary of appeals and complaints

173. During the reporting period, 45 appeals were received from local residents. The appeals mainly concerned the installation of parapets, the opening of additional junctions, new traffic lights, requests for conclusions on the boundaries of the project impact on land plots, and the installation of new pavilions. There were also requests from local governments to assist in resolving various issues. All appeals were duly registered in the GRM log and were considered in a timely manner. There were no complaints related to environmental issues.

174. During the reporting period, all types of construction work were carried out within the framework of design decisions (without affecting households). All construction works are organized in such a way as to ensure uninterrupted traffic and movement of people.

175. As of June 30, 2022, no unexpected project impacts on households have been found.

Table 21 Summary table of appeals and complaints for the reporting period

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
1	2022.01.19	Section 1	Ak-Suu ayil okmotu of Moskovsky district	Other	Assistance in backfilling the intra-settlement streets of AkSu aiyl aimag	Work will be completed in the spring	accepted	2022.01.28
2	2022.01.24	Section 2	Director of the Zhibek Zholu market Sokuluk, Sokuluk district	Restriction or loss of access	Ensuring entrance to the market	this issue is being resolved jointly with the local authorities of the Sokuluk district, and on this section construction work will resume in March 2022.	accepted	2022.02.09
3	2022.01.24	Section 2	G. Shparagina, a resident of the Belovodskoe village, Moskovsky district	Restriction or loss of access	Ensue the passage through the r/c ditch to the commercial facility located at 130/5 Funze street, Belovodskoe village	it was decided to install slabs in the amount of two units to ensure the passage through the reinforced concrete ditches	accepted	2022.02.09
4	2022.01.28	Section 1	Aleksandrovka ayil okmotu Moskovsky district	Other	Installation of a new name board "Moskovskiy district" in the Aleksandrovka village instead of the old name board located at km 29+986	in this area there is enough place for the installation of a new 3 x 3m name board, we have no objections to the installation of a new name board in sizes not exceeding the above, i.e. 3x3 m in the foundation part.	accepted	2022.02.03
5	2022.02.17	Section 2	Residents of Sokuluk village, Sokuluk ayil okmotu of Sokuluk district	Other	Appeal regarding the deadlines for the completion of the underpass repair works	From mid-March, repair work will be resumed and it is planned to complete in May 2022. After the full completion of all construction works on the Bishkek-Kara-Balta road section, the balance holder of	accepted	2022.02.24

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
						this object will be determined, which will operate this pedestrian underpass and ensure its cleanliness.		
6	2022.02.17	Section 3	resident of the Ala-Too residential area, Sokuluk district	Other	Applying for the issuance of technical conditions for the installation of a commercial pavilion	After the site visit together with the applicant and determining the location of the area for the construction of a pavilion, it was found that this area falls under the construction zone. The Engineer recommends not to issue technical conditions for this section until the completion of the Bishkek-Kara-Balta road construction project.	rejected	2022.02.25
7	2022.02.25	Section 1, 2	Moscovskiy District Administration for Urban Planning and Architecture	Other	Application for the provision of copies of permits for the implementation of the project Rehabilitation of the Bishkek-Osh road, phase 4, Bishkek-Kara-Balta section, km 15.9 - km 61.	copies of permits were given	accepted	2022.03.15
8	2022.03.02	Section 1	OsOO Medservise, Voenno-Antonovka village, Frunze - Pushkina str.	Other	Issuance of technical conditions for the installation of the pavilion	After a site visit it was determined that the pavilion was installed at a distance of 19 m form the road axis. No objection to the issuance of technical conditions.	accepted	2022.03.15
8	2022.03.14	Section 2	Head of Sokuluk ayil okmoty, Sokuluk village, Frunze - Lenina str.	Other	Issuance of technical conditions and is there is any impact	Not possible to determine whether the land pots fall into the construction zone or not since the exact location is not specified	rejected	2022.03.16

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
9	2022.03.15	Section 3	A.S. Zholdoshev, representative of Altyn - Ordo residental ares, Sokuluk district, Novo-Pavlovka village	Road Upgrading	Installation of the casing for gas pipeline in the Novo-Pavlovka village, Frunze - Kirova str.	Appellant informed on this issue consultations with PJSC Gazprom are being held, after the resolution, the appellant will be informed.	forwarded	2022.03.23
10	2022.03.24	Section 1	OsOO Novoe Vremya, Voenno-Antonovka village, Sokuluk district	Road Upgrading	Provision of exit/entrance to the territory of the company, dismantling central parapets	According to the design asphalt concrete pavement is provided, Contractor will carry out work in the near future. Dismantling of parapets is not possible	Partially accepted / rejected	2022.03.31
11	2022.03.25	Section 1	Jayilskii district department for urban planning and architecture	Other	A number of issues related to the completion of underpasses, sidewalks, street lighting, access to households, construction of bus stops, etc.	The engineer informed that all work provided for by the design and not completed to date will be finished during the defect's liability period in accordance with the work plan	accepted	2022.04.15
12	2022.03.25	Section 3	Sokuluk aiyl okmotu based on a complaint of a resident	Damage to Infrastructure / Assets	The claim says the local house was cracked due to the vibration coming from trucks passing nearby.	The commission visited the site and compared preconstruction photos with the actual state. The conclusion was that the cracks did not develop further since then.	rejected	2022.04.02
13	2022.03.25	Section 1	Jayilskii district department for urban planning and architecture	Other	A number of issues related to the completion of underpasses, sidewalks, street lighting, accesses	Appellant informed that all work provided for by the design and not completed to date will be finished during the defect's liability period in accordance with the work plan	accepted	2022.04.15

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
					to households, construction of bus stops, etc.			
14	2022.03.26	Section 2	Sokuluk district state administration	Other	Restoration of traffic light damaged after traffic accident	the Engineer held a meeting and the Contractor was instructed to restore the traffic light in the soonest possible time.	accepted	2022.04.21
15	2022.03.26	Section 3	K.A. Abdyrova, resident of 52/1 Goglya str., Novopavlovka, Sokuluk sitrict	Other	Issuance of technical conditions for the installation of pavilion	Appellant informed that pavilion does not fall under project road construction zone. But there is a water pipe under the ground, it should be agreed with Water Utility Service	Partially accepted / forwarded	2022.03.31
16	2022.04.05	Section 2	Moskovskiy district state administration of Chui oblast	Road Upgrading	Application for installation of additional LED lighting at pedestrian crossings	The applicant reported that it does not comply with road regulations and now the construction of street lighting provided for is being designed. The projected lighting will provide sufficient illumination of all pedestrian crossings.	rejected	2022.04.21
17	2022.04.11	Section 1	Poltavka ayil pkmotu	Road Upgrading	Application for the construction of an additional bus stop	According to the response of the design author, the construction of an additional bus stop is not possible, as this would be contrary to industry standards. According to the design documentation, a new bus stop is provided at km 54+200.	rejected	2022.04.27
18	2022.04.11	Section 3	Novopavlovka Municipal services	Other	Clarification of the location of casings for utilities provided for by the design	The Engineer held a meeting with the applicant about the possible places for the installation of water supply casings proposed by the applicant were considered and discussed. Also, it was explained that the approved design did not provide special casings for water	accepted	2022.04.15

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
						supply in the territory of the Novopavlovka village		
19	2022.04.15	Section 3	representative of Altyn - Ordo residental ares, Sokuluk district, Novo-Pavlovka village	Other	Request for the installation of casings for long term gas pipelines	During a telephone conversation with the applicant, it was explained that issues of an infrastructural nature (installation of a casing for a gas pipeline for gasification of the Altyn-Ordo residential area in the future) should be resolved through the service provider - Gazprom PJSC. The applicant took this information into account and said that he would contact PJSC Gazprom on this issue	rejected	2022.04.20
20	2022.04.15	Section 2	Resident of 178 Frunze street, Sokuluk village	Other	Issuance of technical conditions for the installation of pavilion	After a conversation with the applicant, it was found that the light structure will be located outside the construction area, on the applicant's private property. In this regard, the Engineer has no objection to the issuance of technical conditions	accepted	2022.04.22
21	2022.04.18	Section 2	Resident of 312 Frunze street, Sokuluk village	Other	Request to relocate transformer substation	Applicant informed that the transformer substation was installed according to the design and in line with construction codes and norms, taking into account all utilities located nearby, including the gas pipeline.	rejected	2022.04.29
22	2022.04.19	Section 2	Resident of 78 Frunze street, Alexandrovka village	Other	Request to install ditch slabs in front of the house	The request has been agreed by the Consultant	accepted	2022.04.21

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
23	2022.04.20	Section 3	Novopavlovka Municipal services	Road Upgrading	Request for installation of additional casings for long-term water supply and sewerage lines	The Engineer will install 4 additional casings for long-term water supply and sewerage lines. This work will be included in the Contractor's scope of work	accepted	2022.04.25
24	2022.04.22	Section 3	Novopavlovka ayil okmoty	Road Upgrading	Request for installation of additional casings for long-term sewerage lines in Profsoyuznaya street	It was informed that the Profsoyuznaya street is not covered by the project zone	rejected	2022.04.26
25	2022.04.26	Section 3	Municipal Territorial Administration No. 15 of the Bishkek city	Other	Request to provide a scarified old asphalt concrete pavement for backfilling internal roads in the Tynchtyk residential area of the Pervomaisky district of the Bishkek city.	the Engineer gave the relevant instruction to the Contractor to provide the old asphalt for backfilling the internal streets in the residential area.	accepted	2022.04.28
26	2022.04.29	section 3	Chairman of the Committee of Transport, Communications, Architecture, and Construction of the Parliament, B. Sydykov	Other	The residents of Voyenno-Antonovka village requested to provide scarified old asphalt concrete pavement for backfilling internal roads.	Appealant was informed that the Contractor agrees to provide the necessary amount of old scarified asphalt, however, due to the tight schedule of work and the lack of free equipment, it cannot be crushed and leveled. If the applicant	Accepted	12.05.2022

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
						agrees to level by himself, asphalt will be provided		
27	2022.05.11	Section 2	Department of road, water transport, and weight and dimension control	Road Upgrading	Request to ensure the arrangement of access road to the Malovodnoye transport control point	Response provided that the works will be done within the shortest possible period	accepted	2022.05.23
28	2022.05.13	Section 2	KBFC shop owner, Sokuluk village, 48 Frunze str.	Other	Request to put additional ditch slabs in front of the shop	The appeal was satisfied	accepted	2022.05.13
29	2022.05.16	Section 3	Voenno-Antonovskiy ayil okmotu	Road Upgrading	Request to change the location of the bus stop	It was explained that It is not possible to change the location of the bus stop, as there is a gas station on the west side and a junction on the east side. Some road works have already been completed on this section (construction of the subgrade, subbase, and base). The work will be carried out according to the design.	rejected	2022.05.18
30	2022.05.18	Section 2	Kim V.A. Belovodskoe village, 153 Frunze str.	Other	Request to restore the pavement stones in front of the ABSOLUT store	As the Contractor intended to put asphalt instead of the pavement stones, the appellant once again appealed to have the pavement stones replaced in front of his property as agreed before. The Engineer once again sent instructions to the Contractor to do so. The Engineer's road inspectors will monitor the fulfillment.	accepted	2022.05.19

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
31	2022.05.18	Section 2	Plenipotentiary Representative of the President of the Kyrgyz Republic in the Chui region	Road Upgrading	Dismantle dividing parapets to provide entrance to the Solto Ordosu memorial monument	the relevant instruction has been sent to the Contractor and the work will be completed as soon as possible.	accepted	2022.05.25
32	2022.05.23	Section 3	OJSC KYRGYZINDUSTRIYA	Other	Provide old scarified asphalt to fill the access road to the industrial zone	The Contractor has studied the location and since the area is located on the territory of the environmental protection zone it is not possible to provide the requested material	rejected	2022.06.08
33	2022.05.23	Section 2	F.Sh. Panpanza Sokuluk village, 205 a Frunze str.	Other	Restore slabs on the ditches installed by the owner	Restoration of slabs will be completed soon	accepted	2022.06.03
34	2022.05.26	Section 1	Moskovskiy district state administration	Other	Request for removal of excess stored unsuitable material	forwarded to the Contractor for execution	accepted	2022.05.30
35	2022.05.30	Section 2	K. Khandzeja Deputy of the Jogorku Kenesh	Road Upgrading	Request to dismantle parapet fencing	From the point of view of ensuring road safety, it is not possible to remove the parapets installed on the median, since if there will be an opening, then it will be 3 closely located openings in a very short section with a length of only 260 meters, thereby increasing the number conflict points that contribute to the accidents	rejected	2022.06.03
36	2022.06.02	Section 2	K. Khandzeja Deputy of the Jogorku Kenesh	Road Upgrading	Request to relocate bus stop	The designed bus stop which is almost completed is located at a distance of 150 meters from the intersection, next to which the applicants are asking to construct (relocate) the bus stop. In case	rejected	2022.06.21

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
						of relocation of the bus stop, it will be necessary to change the location of the opening and pedestrian crossing		
37	2022.06.02	Section 3	Novopavlovka ayil okmotu	Other	Clarification of road construction zone boundaries for construction of the mini park	During the meeting, the applicant was informed that at present this section cannot be given for the construction of mini park, since there should be constructed ditches and slopes as part of the implementation of this project. Upon completion of the project works, the Engineer has no objection to the construction of mini park in this area	rejected	2022.06.09
38	2022.06.07	Section 2	Residents of Petrovka village	Road Upgrading	Residents requested to relocate the project bus stop	the Engineer's specialists met with the applicants and agreed to reduce the length of the bus stop from 20 meters to 13 meters and on the bus bay construct lying down curb stones for free entry and exit of homeowners	accepted	2022.06.14
39	2022.06.08	Section 1	B. Eshalieva resident of Shopokov city	Other	Request to provide technical conditions for the placement of commercial facilities	Due to the fact that within the boundaries of the land plot specified by the applicant, the design provides for the entrance to the gas station and the sidewalk, in order to obtain technical conditions, the applicant should contact the registration authorities to clarify the boundaries	rejected	2022.06.08
40	2022.06.08	Section 3	S. Bogatov 204 Frunze street, Novopavlovka, Sokuluk district	Other	Restoration of storm drainage pipe	Due to complex technical solutions related to the restoration of this pipe and the need to install a ditch on the other (right) side of the road, the Engineer decided to divert water from the houses of local residents through	accepted	2022.06.17

№	Date	Section	Name and contacts of the applicant	Compliant category	Compliant description	Resolution description	Resolution	Date of resolution
						ditches that will be constructed on the left side of the road. The ditches will direct flood waters into a channel passing under the road approximately 20 m from the applicant's house from the Bishkek side (under the bridge).		
41	2022.06.14	Section 1	R. Duyshaliev 38 Frunze street, Romanovka, Sokuluk district	Other	Request to provide conclusion for obtaining permission to re-profil the existing building	The applicant informed that this building is located outside the Bishkek-Kara-Balta road construction zone	accepted	2022.06.23
42	2022.06.14	Section 1	B. Alymbekov, resident of Shopokov, Sokuluk district	Road Upgrading	Questions regarding terms of construction, about junctions and parking area	The applicant was informed that the parking area was constructed according to the design and road markings will be applied soon. The first layer on junctions was laid, and preparatory works underway for completion of second layer.	accepted	2022.06.24
43	2022.06.24	Section 1	Department of Internal Affairs of the Sokuluk district	Other	Request to asphalting the car parking area			
44	2022.06.27	Section 1	B. Alymbekov, a resident of Shopokov, Sokuluk district	Road Upgrading	Request to construct a road junction			
45	2022.06.28	Section 3	I. A. Kurmanalieva Novopavlovka village	Other	Request to provide details on demolition of facilities that fall under the project	E. Imanaliev street specified in the request is located outside the Bishkek-Kara-Balta road construction project zone.	rejected	2022.07.04

4.4 Summary of project outcome

176. Regular monitoring over compliance with environmental legislation requirements during construction work on the Bishkek-Karabalta Road within this reporting period highlighted the reality that the Contractor's response to environmental mitigation and monitoring is remedial, that is, corrective actions are taken only when a letter of non-compliance has already been received or the PIU instructs the Contractor to take immediate action.

177. Although the total number of non-compliance issues is not increasing, the Contractor has been very slow in addressing major issues that have remained since the start of construction. For example, 3 of 4 significant issues raised during this reporting period are recurrences from the previous period. Major current non-compliance issues:

- Timely disposal of construction waste;
- Violation of safety and health precautions;
- Planting and caring for seedlings;
- Disposal of old asphalt.

178. The Consultant's environmental expert will continue to conduct visual monitoring of construction sites in the next six months.

179. When analyzing the results of the monitoring, it is necessary to consider 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 consider background levels.

180. 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.

181. The main problem when organizing 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. At present, only one laboratory can monitor the quality of atmospheric air in Kyrgyzstan. In this regard, each visit to the site for sampling must be agreed in advance and sometimes need to wait several weeks. During the reporting period, there were problems with laboratory monitoring of atmospheric air quality on the Bishkek-Kara-Balta project road. The reason was that in May 2021, the reorganization of environmental authorities took place. This laboratory became part of the Department of Environmental Monitoring under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic. During the first half of 2022, the Contractor repeatedly applied to the laboratory with a request to indicate the conditions for concluding a contract for laboratory monitoring of atmospheric air quality. In response, the Contractor was informed that the Minister prohibited to conduct any srurveys until the results of the accreditation of the laboratory are received, which will be carried out in July 2022.

182. When monitoring noise and vibration, it was easier to work with the private laboratory of Profilab LLC, whose employees were available when necessary. During the reporting period, the laboratory conducted noise and vibration monitoring at the project road section.

183. Considering that no construction work was carried out on the rivers, as well as the lack of water in the rivers, monitoring of surface water quality was not conducted.

4.5 Materials/Recourses utilization.

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

4.6 Waste management.

185. During construction works, a large amount of waste is generated, including construction waste, production waste, household waste. The Environmental specialist of the Consultant constantly supervises timely removal and disposal of waste.

4.6.1 Construction waste.

186. During construction work, waste of asphalt, unsuitable soil, reinforced concrete waste is accumulated on the road. With the start of road works, there were problems with crushing old asphalt to a size of 20x20 during excavation. Considering that in the villages there is no equipment for leveling large pieces of old asphalt, the problem arose of taking out of uncrushed old asphalt for backfilling rural streets proposed by the local authorities. However, given that the asphalt was taken out to the road in large pieces, some local administrations refused to accept the placement of removed asphalt to rural streets. During the reporting period, there was no removed asphalt on the road section km 15.9 - 61. Removed asphalt was not transported during the reporting period.

187. With the start of road works at 7.4 km section, the local residents and representatives of aiyl okmotu, represented by the heads of Novopavlovsky and Voenno-Antonovka aiyl okmotu, sent a letter about the removal of old asphalt on the territory of Aiyl aimags, explaining that they needed the removed old asphalt for patching, as well as for filling the internal and field roads in the villages of Novopavlovka and Voenno-Antonovka. Previously, a lot of work was done to improve the internal roads of the residential areas "Altyn Ordo", "Ata Zhurt", "Kelechek" and "Dachi" in the village of Voyenno-Antonovka".

188. During the reporting period, the old asphalt was dumped in the village of Voyenno-Antonovka on rural streets. Unsuitable soil for road construction is taken to land plots provided by local authorities.

189. At the soil storage area, the soil layer was initially removed and stored. Then the unsuitable soil in the village of Voyenno-Antonovka was stockpiled in dumps. Then the unsuitable soil was relocated to a prepared site in a ravine. Partial leveling was carried out. After completion of all works, the top layer will be evenly speraded on the surface of dumps.

Figure 54 Storage and levelling of unsuitable soil for further use in the village of Voenno-Antonovka.

Figure 55 Taking out of the removed asphalt in the village of Voenno - Antonovka.

Figure 56 Backfilling of old asphalt on internal roads in the village of Voenno – Antoovka

190. The problem of crushing old asphalt remains unresolved. After laying the old asphalt on secondary roads, the contractor compacts it with its equipment. The consultant will continue to monitor the implementation of this work. There were no complaints from the local residents regarding the disposal of the removed asphalt.

191. During the construction work on the project road km 8.5 – 61 km – 14100 m3 of old asphalt was removed. And 28000 m3 of unsuitable soil was transported.

192. The requirement of crushing the old asphalt to the size of 20x20 by the contractor is not fulfilled. Taking into account that there is no equipment in the villages for leveling large pieces of old asphalt, the Contractor took the obligation to crush large pieces of old asphalt. The contractor crashes large pieces of old asphalt and levels with its own equipment. The specialist of the Contractor Koichumanov Adilet is responsible for the disposal of old asphalt at 7.4 km section.

193. Asphalt was not transported to swampy areas. 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.

194. In the center of the Sokuluk village, construction waste in large quantities remained uncollected near the underpass under construction. A letter was sent to the contractor. Construction waste was removed within the established time frame.

Before After

Figure 57. Construction waste near the underpass under construction in the center of the Sokuluk.

4.6.2 Production waste.

195. Production waste is also formed during road construction. This is used engine oil, old tires, empty bitumen barrels. According to the Contractor's information, the used oil is reused in the operation of some types of equipment, the rest is handed over to a local company for further processing.

196. In the previous period of work, a large number of barrels with bitumen were delivered to the production site for the preparation of asphalt mix. After bitumen was used, empty barrels were stored on the territory, creating a problem with transportation. During the reporting period, bitumen was delivered by bitumen trucks from rented bitumen pits, barrels with bitumen were not delivered.


Figure 58 Refueling of asphalt plant tanks with bitumen by bitumen trucks

4.6.3 Household waste.

197. Household waste is mainly generated in workers' camps. Both solid and liquid household waste is generated.

198. Household solid waste consists of packaging materials made of paper and cardboard, dry waste, plastic and glass, as well as food waste, which is pre-collected in plastic bags. Household liquid waste is waste water from living premises and kitchens.

199. 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 178 containers of solid waste were cleaned, about **178 m^3** of solid waste was removed. Liquid household wastewater accumulates in septic tanks, is pumped into tankers with a capacity of 3.5 m^3 belonging to district waste transportation companies, and is transported to district wastewater treatment plants. During the reporting period, 156 trips of the cesspool age truck were made, **546 m^3** of wastewater were removed.

Table 22 Volumes of solid waste and wastewater removal from the territories of Sokuluk base and production site in 2022

Locality	Month, date	Quantity of garbage bins, trips of cesspool age truck
Sokuluk	January	16 garbage bins, 20 trips of cesspool age truck
Belovodsk	January	8 garbage bins
Sokuluk	February	20 garbage bins, 33 trips of cesspool age truck
Sokuluk	March	28 garbage bins, 38 trips of cesspool age truck
Belovodsk	March	18 garbage bins
Sokuluk	Appril	23 garbage bins, 23 trips of cesspool age truck
Sokuluk	May	32 garbage bins, 19 trips of cesspool age truck
Sokuluk	June	34 garbage bins,23 trips of cesspool age truck
	Total:	**178 garbage bins, 156 trips of cesspool age truck**

4.7 Health and Safety.

4.7.1 Workers health and safety.

200. In October 2021, Muktar uulu Azis, an occupational health and safety specialist was hired and started working.

201. With the arrival of this specialist, training, instruction, and knowledge testing of the company's employees began to be regularly carried out. Inspection visits were carried out on an ongoing basis. The detected violations were eliminated on the spot. The situation with the constant and timely provision of workers with work clothes and protective means was monitored.

202. The introductory briefing for the newly hired employees was held for 286 workers. The repeated briefing is carried out every 3 months. In order to exclude injuries with workers, seminars were held at the workplace. There no accidents recorded in the production place with the participation of our workers during the half-year.

Figure 59 Logs for registration of briefing conducted at the workplace

203. During the reporting period, several joint visits were conducted by a local environmental specialist of Consultant with a Contractor's OHS specialist. The briefing was conducted at the construction sites.

Figure 60 Briefings and seminars at the workplaces.

204. In order to comply with safety requirements, workers have been issued respiratory protection means (masks). However, there are cases when workers show carelessness when using protective means, especially when wearing protective helmets. The contractor's OHS specialist is constantly monitoring and talking to employees about the need to use helmets.

205. But, despite the regular training of workers, the construction supervision consultant noted non-compliance with safety precautions, especially during work at height and installation of side culvert ditches. Also, there were noted non-compliances when moving load by crane. The workers were in the crane operation area without personal protective means. Cases of non-compliance with safety precautions were noted both at the site for the manufacture of reinforced concrete structures and during installation of culvert ditches. Verbal and written warnings were repeatedly given to the Contractor, but violations continue.

206. The contractor was recommended to regularly check the workers knowledge of the requirements of occupational safety and health and, if necessary, to conduct repeadet training on OHS.

4.7.2 Community health and safety.

207. Newly arrived specialists and workers of the Contractor provided a negative PCR test when entering Kyrgyzstan. All foreign specialists and workers were vaccinated.

208. Based on the recommendations of the Republican Headquarters for the Combat against COVID-19, the Consultant recommended that meetings with a large presence of people be limited as much as possible. If possible, the discussion was held "online" or via electronic correspondence.

209. In order to prevent the risks of disease at the base in the village of Sokuluk an "entrance filter" was arranged:

- measurement of the body temperature of employees with a non-contact thermometer by responsible persons at the entrance;
- mandatory suspension from the workplace of persons with fever and signs of an infectious disease.
- interviewing employees about the presence or absence of respiratory symptoms in family members, checking employees (cough, fever, weakness, headache, etc.);

210. A health and safety specialist conducted regular instruction before the start of the shift and at lunchtime for employees with special attention to COVID-19, including cough etiquette, hand hygiene and distancing measures.

211. All Chinese specialists have been vaccinated. Currently, several types of vaccines have been delivered to Kyrgyzstan. Everyone will be able to get vaccinated.

212. During the reporting period, there were no problems with the health and safety of the Contractor's specialists and workers. There were cases of positive COVID-19 among the Contractor's workers, but since all the workers were vaccinated, the disease passed in a mild form.

213. It is noted that the operational headquarters for combating the spread of coronavirus infection and eliminating its consequences in the territory of Kyrgyzstan decided to cancel the mask regime in Kyrgyzstan from March 12. Personal protective equipment should only be worn in medical facilities and public transport.

214. Sanitary and hygienic and anti-epidemic requirements for ensuring favorable living conditions in residential camps have been established in order to preserve the health of workers and contribute to optimizing their life activities. First-aid kits equipped with non-contact thermometers, sanitizers, and necessary medicines have been organized in the camps for specialists and workers of the Contractor, in accordance with the *Plan of operational measures to prevent the importation and spread of coronavirus infection*. Regular cleaning and disinfection of residential premises are carried out.

4.8 Ensuring of road safety at the project site:

215. The Consultant's road safety specialist monitors the Contractor's road safety on a regular basis. There are constant site visits, monitoring of the state of the carriageway, bypass roads, pedestrian crossings, and underpasses are carried out. There is also a constant monitoring of the condition of the relevant road signs, road markings, fences installed to fence work sites and at the places of oncoming traffic.

216. A road safety specialist has given a written instruction to the Contractor on the installation of road signs according to the approved locations, in areas where asphalt laying and installation of fences on the dividing strip have been completed. The contractor was instructed to replace the old traffic lights with new ones. 18 traffic lights have been installed. The contractor carried out work on the replacement of non-standard and worn-out road signs. 910 road signs were installed. Carriageway markings (main lines and pedestrian crossings) were also applied.

217. Consultant registries road accidents occurred at the project site only if the accident occurred due to the fault of the Contractor, namely insufficient implementation of road safety measures (lack of fences, signs, pits, etc).

Road safety campaign

218. In May, a subcontractor for the Road Safety Awareness Campaign developed scripts for short videos and filming has been started. Scripts for stories have also been developed for further placement on TV channels. Road safety posters were placed in all project schools. After agreeing all the materials, surveys and trainings were conducted among students.

Figure 61 Posters placed in schools

Aleksandrovka village

Belovodskoe village

Novopavlovka village

Shopokov

Petrovka village

Sadovoe village

Figure 62 . Road safety training in schools

219. During the reporting period, there were no accidents recorded due to the fault of the Contractor or construction works. On the part of the Consultant, the situation is constantly monitored and, if non-compliances are found, a written notification is sent to the Contractor with a demand for immediate elimination.

5. FUNCTIONING OF THE CEMWP.

5.1 CEMWP review.

220. 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 CEMWP 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.

221. The Contractor's Environmental Specialist – Uzbekov Kanatbek, implements the construction mitigation measures. The Contractor's compliance with environmental requirements is supervised by Consultant's environmental specialist, Tatyana Volkova. If any violations are detected, Consultant notify the Contractor verbally or in writing on the need to eliminate this violation within the specified time frame.

222. 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 and watering seedlings;
- Violations in the construction of ditches;
- Borrow-pit mining and management;
- Materials manufacturing plant (bitumen and chemical leakages).

223. Currently, the main issue of CEMWP implementation remains planting seedlings instead of cut trees and its care. Considering climatic conditions, it is better to plant seedlings in the autumn, in October – November and in March - April. But by the scheduled time, the Contractor had not completed construction of sidewalks, side culvert ditches and replacement of utilities on the site planned for planting seedlings. To date, about 6125 seedlings have been planted. Since the project section of the road passes through settlements, where, given the expansion of the road, there is little space for planting new seedlings, it is necessary to decide where and when the remaining seedlings will be planted. To date, there are practically no places left on the project road for planting new seedlings. Local ayil okmoty proposed places for planting seedlings located at a distance of 1-2 km from the project road. These were two places near water intakes in the Poltavka village. Watering of seedlings will be carried out by residents of local ayil okmoty. Also, from some aiyl okmotus and the mayor's office of Kara-Balta requests were received to provide them with seedlings for planting in organized park areas that are located on their territory, while they will undertake further work on planting and watering.

224. In the summer period, the Contractor needs to find places for the autumn planting of seedlings.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT.

6.1 1 Good practice.

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

6.2 Opportunities for Improvement.

226. 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 care of them.

7. SUMMARY AND RECOMMENDATIONS.

7.1 Summary.

227. The problem of crushing old asphalt to a size of 20x20 remains unresolved. During the reporting period, old asphalt was transported for backfilling rural streets only at 7.4 km section. Unsuitable soil was taken to dumps for the further use and for backfilling ravines.

228. The contractor does not monitor the already constructed structures. Previously constructed side ditches are overgrown with grass and filled with construction waste. According to the explanation of the contractor, the construction and installation of the ditches has not been completed; upon completion of the construction and installation of the side ditches, it will be cleaned and, if necessary, additional levelling of the area will be carried out. In spring 2022, the cleaning of side ditches from stones, debris and grass has been started.

229. 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.

230. Currently, planting seedlings instead of cut down trees remains a problem. Currently, 6 125 seedlings have been planted, while the contractor will have to complete planting seedlings in the autumn of 2022 (approximately in October - November 2022). To date, there are practically no places left on the project road for planting new seedlings. Local ayil okmoty proposed places for planting seedlings located at a distance of 1-2 km from the project road. These are areas in the village of Poltavka near the water intakes. Park areas. Watering of seedlings will be carried out by residents of local ayil okmotu. It is necessary to start planting seedlings at the 7.4 km section.

231. A new OHS Specialist was hired in October 2021. With the arrival of this specialist, training, instruction, and knowledge testing of the company's employees began to be regularly carried out. Inspection visits were carried out on an ongoing basis. The detected violations were eliminated on the spot. The situation with the constant and timely provision of workers with work clothes and protective means was monitored.

232. The introductory briefing for the newly hired employees was held for 286 workers. The repeated briefing is carried out every 3 months. In order to exclude injuries with workers, seminars were held at the workplace. There no accidents recorded in the production place with the participation of our workers during the half-year.

233. Bitumen from metal barrels on the asphalt plant was fully used. Empty barrels were removed from the production site. During the reporting period, bitumen was delivered by bitumen trucks from rented bitumen pits, barrels with bitumen were not delivered.

234. The stone crushing plant worked mainly on moistened material, so dusting was almost not observed.

7.2 Recommendations.

235. Given the fact that during the construction period, the Contractor does not always eliminate the violations in the specified time, and the Consultant is unable to apply any measures other than the 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.

236. In the spring of 2022, a large number of seedlings was planted, so the Contractor needs to be more responsible about planting and caring for seedlings. A watering machine has been allocated, which is involved only in watering seedlings.

237. The Contractor during the summer period needs to determine areas for planting new seedlings, including water intakes and park areas, while taking into account that local administrations will provide planting and further care for seedlings independently.

238. Considering that in 2022 the main construction works will be carried out on 7.4 km section, which is located on the territory of densely populated villages, with a large flow of vehicles, in order to avoid complaints from the local population, it is necessary to strengthen dust control measures (water-sprinkling).

239. At present, it is necessary to bring into proper condition and establish constant monitor over previously constructed culvert ditches and pipe heads, regularly clean them from stones and plants.

240. Before the end of the defect's notification period period in 2022, it is necessary to complete all reclamation work on borrow pits, which will not be used and carry out the procedure of handing over to the district commission.

241. The Contractor's environmental specialist should regularly monitor the condition of planted seedlings, the condition of constructed structures such as ditches, and culvert pipes. Do not allow filling the trunks of growing trees with unsuitable soils or old asphalt.