Environmental Monitoring Report

#7 Semi-annual Report Reporting period: July-December 2021 February 2022

Georgia: Rehabilitation of Dzirula–Kharagauli–Moliti–Pona–Chumateleti Secondary Road Section (50Km)

Loan No: 3524

(Financed by the Asian Development Bank)

Prepared by: PYUNGHWA Engineering Consultants Ltd and Yoshin Engineering Corporation and Roads Rehabilitation Modernization Supervision Direction Ltd, for Roads Department of the Ministry of Regional Development and Infrastructure of Georgia and Asian Development Bank

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this web site.

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

ACRONYMS & ABBREVIATIONS

ADB	Asian Development Bank						
DNP	Defects Notification Period						
EA	Executing agency						
EMP	Environmental Management Plan						
EMS	Environmental Management System						
GRC	Grievance Redress Committee						
GRM	Grievance Redress Mechanism						
IEE	Initial Environmental Examination						
Km	Kilometer						
Ministry	Ministry of National Development and Infrastructure						
PCU	Project Coordination Unit						
PIU	Project Implementation Unit						
PMU	Project Management Unit						
RD	Roads Department						
SEMP	Specific Environmental Management Plan						
SSEMP	Site Specific Environmental Management Plan						
TOR	Terms of Reference						

Table of Contents

<u>1</u>	INTRODUCTION	5
<u>1.1</u>	Preamble	
<u>1.2</u>	Headline Information	5
<u>2.</u>	PROJECT DESCRIPTION AND CURRENT ACTIVITIES	5
<u>2.1</u>	Project Description	5
<u>2.2</u>	Project Contracts and Management	
<u>2.3</u>	Project Activities during the Current Reporting Period	12
<u>2.4</u>	Description of Any Changes to Project Design and Work scope Variation Orders, LOT	1/2 13
<u>2.5</u>	Description of Any Changes to Agreed Construction methods	13
<u>3.</u>	ENVIRONMENTAL SAFEGUARD ACTIVITIES	14
<u>3.1</u>	General Description of Environmental Safeguard Activities	
<u>3.2</u>	Site Monitoring/Audits	14
3.3	Issues Tracking (Based on Non-Conformance Notices)	
3.4	Trends	21
<u>3.5</u>	Unanticipated Environmental Impacts or Risks	
<u>4.</u>	RESULTS OF ENVIRONMENTAL MONITORING	23
<u>4.1</u>	Overview of Monitoring Conducted during Current Period	23
<u>4.2</u>	Trend	24
<u>4.3</u>	Summary of Monitoring Outcomes	24
<u>4.4</u>	Material Resources Utilization	25
<u>4.4.1</u>	Current Period	25
<u>4.5</u>	Waste Management	25
<u>4.5.1</u>	Current Period	
<u>4.6</u>	Health and Safety	
<u>4.6.1</u>	Community Health and Safety	26
4.6.2	Worker Safety and Health	26
<u>4.7</u>	Training	26
<u>4.8</u>	Grievance Redress Mechanism	
<u>5.</u>	FUNCTIONING OF THE SEMP	28
<u>5.1</u>	SEMP Review	28
<u>6.</u>	GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT	28
<u>6.1</u>	Good Practice	28
6.2	Opportunities for Improvement	29
<u>7.</u>	SUMMARY AND RECOMMENDATIONS	
<u>7.1</u>	Summary	29

7.2 Recommendations	31
ANNEXES:	32
Annex 1 - Site Photos	32
Annex 2 – Non-Compliance Notices	35
Annex 3 – Complaints	

1 INTRODUCTION

1.1 Preamble

- 1. This report represents the Semi-annual Environmental Monitoring Review of Rehabilitation of Dzirula Kharagauli Moliti Pona Chumateleti Secondary Road Section (50Km).
- 2. This report is the sevens Semi-annual EMR for the project and covers July December 2021 reporting period.

1.2 Headline Information

- 3. Project design review and construction activities have been commenced in September 18, 2018 (BSG LOT1). There is protected area near the project related road section. The shortest distance between Borjomi-Kharagauli National Park (BKNP) and the existing project road is approximately1.3 km. BKNP is separated from the existing project by a river gorge, which prevent the transposition of flora and fauna. Therefore, the project will have no direct impacts on the biodiversity of the BKNP. However, construction contractor should select appropriate access roads to avoid disturbance of the protected area and provide site staff with special training to prevent poaching.
- 4. Second Contractor "AKKORD ICIC" (Lot 2) started mobilization and set up office at Chumateleti and their activity started on 31st May2019.
- 5. Some non-compliances have been identified during the reporting time period. Appropriate corrective action plans have been elaborated and implemented. The non-compliances detected during HSE inspections were recorded and photos taken.
- 6. Under LOT2 there were no construction activities during July-December 2021. CC Akkord left site .
- 7. It is envisioned, that the road, when improved, will enhance connectivity to a number of towns and villages at the foothills of the mountain ranges and will act as alternate route to parallel segments along E60. Also, positive impact of the project is local population's involvement in the road construction process.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

- 8. The project road is a 50.244 km west to east secondary road, starting from E-60 in Dzirula and ending at E-60 junction at Chumateleti. Most of the project road is within Imereti Region with a few kilometers within Shida Kartli Region, through a gorge with mountain ranges with on both the northern and southern part. It is envisioned that this road, when improved, will enhance connectivity to a number of towns and villages at the foothills of the mountain ranges and can act as alternate route to parallel segments along E-60.
- 9. For implementation purposes the project was divided into 2 separate sections (lots) of about 25 km each. First section (Lot 1) (Construction Contractor: Black Sea Group) covers above road

from Dzirula (km0+000) to Moliti (km 24+620). The details of the proposed road project are:

- Rehabilitate and pavement of the project road from Dzirula to Kharagauli according to GeorgianNationalStandardforPublicMotorRoads(SSTGzebi2009),GeometricalandStructur al Requirements with 40 km/h design speed. The pavement within Kharagauli town is planned to execute minimum 4cm asphalt surface course after milling over the area.
- Replacement or repairing of 9 bridges and 102culverts.
- Construction of side drains and other drainage structures.
- Provision of retaining walls and river protection measures, where necessary.
- Provision of adequate road signing and marking.
- Provision of safety barriers.
- 10. Second section (Lot 2) (Construction Contractor: Akkord ICIC) covers the above road from Moliti (km 24+620) to Chumateleti (km 50+244). The details of the proposed road section are:
 - Rehabilitation and pavement of the project road from Moliti to Chumateleti according to Georgian National Standard for Public Motor Roads (SST Gzebi 2009), Geometrical and Structural Requirements with a design speed of 40km/h.
 - Construction of 13 new bridges
 - Construction of 86 pipe culverts and 6 box culverts.
 - Construction of side drains and other drainage structures.
 - Provision of retaining walls and river protection measures, where necessary.
 - Provision of adequate road signing and marking.
 - Provision of safety barriers.
- 11. AKKORD ICIC has been selected as the Construction Contractor for LOT 2 (Km 24+620 Km 50+244), agreement has been concluded 04.12.2018. Mobilization is ongoing (started in June 2019), construction activities are commenced but far behind planned schedule.
- 12. The road is to be designed according to Georgian geometric design standard, and accordingly, it shall be sufficient to carry the traffic loading efficiently and with the vehicles from the opposite directions can pass safely. The design elements for the cross section of the two-lane road are as follows:

Number of lanes: 2Lane width: 3.00 mCarriage way width: 6.00m

• Width of shoulder: 1.00 m (of which 0.50 m is paved)

Increase of shoulder on embankment 0.50mTotal road width: 9.00m

- 13. The preliminary road design was carried out considering following design philosophy.
 - The standards to be applied will follow the Georgian geometric design standard for the selected design speed of 40 km/h, with some flexibility in application when the strict application of the standards would result in an excessively costly technical solution.
 - In general, the design follows the existing alignment wherever possible and considers the existing structures. Where the existing alignment does not correspond to the proposed parameters, certain improvements depending on topography, presence of built-up areas and structures are considered.
 - The vertical alignment has been maintained in general, with improvements to the sight

- distances, where the existing topography allow for improvements. To accommodate new pavement layers, the road elevations have increased accordingly where possible.
- The design will result in a cost effective construction, considering the low traffic volumes on the road and the economic viability of the design.
- 14. The map of the project road is given in the **Figure 1** below.

Fig. 1: Map of Project Road

Figure 1: Location Map of the Project Road ALREO ALREO KOROUTOCO CHIAMBIES **トンドン8330世**の amenomo LOCIDE 4000 E00E3060 80/400/00/0 MASEUS 336360

- The project is classified as category B for the environment under ADB's Safeguard Policy Statement (2009). Project implementation period is: 2018-2020. The Extension of Time for Completion has been decided by the Amendment No.6 (20th October 2020) that is extended up to 22nd May 2021 as same as Engineer reported in his review by its letter No. PEC/RD/DCSRS/20-269 dated on 11th September 2020. On 1st December of 2020, Contractor sent a letter (No.DZM/BSG-OUT-MNG-COR-0257) attached with signed Amendment No.6 dated on 20th October of 2020 in which he stated, that besides the signature of the Amendment No.6 the works cannot be completed by 22nd May 2021 and an additional time extension will be necessary.
- 16. Road Department of the Ministry of Regional Development and Infrastructure of Georgia submitted an EIA (IEE) to the Ministry of Environment and Natural Resources Protection 20 November 2017. Approved by MoEPA on 1 December 2017.

17. The current Semi-annual Environmental Monitoring Report covers the period from July-December 2021.

2.2 Project Contracts and Management

- 18. Consultancy Services (CS) Contract was awarded to JV of Pyunghwa Engineering Consultants Ltd, Yoshin Engineering Corporation and Roads Rehabilitation and Modernization Supervision Direction Ltd for three phases of the project:
 - a. Phase 1–Design review, to be completed in a period of five weeks.
 - b. Phase 2-Construction Supervision and Project Management. The period is for 33months.
 - c. Phase 3-Defects Notification Period, two years (24months).
- 19. The TOR for the Consultancy Contract contains the following tasks for the Environmental Specialists:
 - Ensure that the provisions of the approved Environmental Management Plan are reflected;
 - in the Contractor's contract site environmental management plan (SEMP) prior to its acceptance by the Engineer, the Employer and ADB, and there after ensure that the Contractor complies in every respect with the provisions of the SEMP;
 - Develop an environmental auditing protocol for the construction period, regularly supervise the environmental monitoring, and submit periodic reports based on the monitoring data and laboratory analysis reports. These reports will be included as an annex to the Consultant's Monthly Report;
 - Develop a program for hands-on training of Contractor's staff in implementing the SEMP.
 Conduct Post-Construction Environmental Audit and prepare post-construction environmental audit report with filled environmental audit checklist.
- 20. All mitigation measures during construction are implemented respectively by the contractor companies: Black Sea Group LTD and AKKORD ICIC. Each contractor company have environmental and safety officers responsible for HSE issues during construction process. Construction companies are monitored by the supervision consultant (PYUNGHWA) environmental specialist Shalva Bosikashvili and Environmental Specialist of RD ADB Ms. Luiza Bubashvili. Environmental Specialists of SC and RD conducted routine observations and surveys of project sites. Oleg Tabatadze HS Manager Akkord, Nikoloz Jashiashvili HS Manager BSG, who are responsible for occupational health and safety issues.
- 21. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including "Site-specific Environment Management Plan" (SEMP). Such plans can be further subdivided into Topic Specific or Location Specific EMP's. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.
- 22. Topic Specific EMPs are developed on a topic by topic basis. For example:
 - Waste Management Plan;
 - Traffic Management Plan;
 - Protected Species Management Plan;
 - Water Management Plan and Etc.

- 23. These plans are detailed and set out how the project will address potential issues identified in the impact assessment process and ensure that specific mitigation and monitoring measures are fully implemented. A topic specific environmental management plan will cover the entire project.
- 24. The names and contact details of environmental staff involved in the environmental management are presented in the **Table 1** below:

 Table 1: Description of staff involved in environmental management

Organization	Position	Name	Nationality	Tenure
Construction Contractor Akkord	Environmental Specialist	Farid Bairamov Cell: +995 595 909638 Farid.bairamov@inbox.ru	Azeri	16 months
Construction Contractor BSG	Environmental Specialist	Levan Kereselidze Cell: 599004082	Georgian	16 months
Supervision Consultant Pyunghwa Engineering Consultants Ltd, Yoshin Engineering Corporation and Roads Rehabilitation and Modernization Supervision Direction Ltd	Environmental Specialist	Shalva Bosikashvili sbosikashvili@yahoo.com Cell: +995 595 116041	Georgian	16 months
ADB/RM	Head Office, Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD.	Ninette R. Pajarillaga npajarillaga@adb.org		

	ADB/RETA	Keti Dgebuadze	Georgian
	International	Tel: +995 322 250619	
	Environmental Safeguards	Cell: +995 577 232937	
	Consultant	ketdgeb@yahoo.com	
		kdgebuadze.consultant@adb.org	
	Associate	Nino Nadashvili	Georgian
	Safeguards	Cell: +995 595 070442	
	Officer	nnadashvili@adb.org	
	Georgia Resident		
	Mission		
	Asian		
	Development		
	Bank		
Roads Department PIU	Environmental Safeguard Consultant under ADB & EIB financed Projects	Luiza Bubashvili Cell: +995595219141 Web: www.georoad.ge likabubashvili@yahoo.com	Georgian

^{25.} Construction Contractor for first lot (km 0+000 to km 24+620) is "Black Sea Group" LTD, for the second lot is "AKKORD ICIC" (km 24+620 to km50+244).

^{26.} Summary of civil works contracts and works' progress is summarized in Table 2. All awarded contracts included EMPs cleared by ADB and conditions of applicable national EIA clearance.

Table 2: Summary of Civil Works Contracts and Work's Progress for Rehabilitation of Dzirula-Kharagauli-Moliti-Pona-Chumateleti Secondary Road Section (50km)

Scone	Contractor	Signod	Approv	al Date		onmental sonnel	Civil W	orks	Progress as of	
Scope		Signed	SSEMP	COVID-19 HSMP	Environme ntal Officer	Health and Safety Officer	Start	End	30Jun 2020	31Dec 2021
Dzilula- Moliti road section from km 0+000 to km24+62 0	Company Black Sea GroupLLC	04 Dec. 2017	08 Feb. 2019, Submitted to RD for approval Approved 12.02.201 9	Prepared by SC Approved 25.11.202 0	Beka Pangani	Beka Pangani	18 Sep. 2018	22 May 2021	(66.16 %) 62.71%	(100%) 81.39%
Moliti- Chumatel eti road section from km 24+620 to km 50+244	Akkord Industry Construction Investment Corporation OJSC	04 Dec. 2018	11 June 2020, Submitted to RD for approval (Rev.05) Approved 18.06.202	Prepared by SC Approved 25.11.202 0	Oleg Tabatadze	Oleg Tabatadze	31 May 2019	16 Nov. 2021	(51.53 %) 10.68%	(71.52 %) 11.92%

Note: The Month/Years in brackets are planned schedule. COVID-19 HSMP = COVID-19 Health and Safety Management Plan, ERP = Emergency Response Plan, SSEMP = site-specific environmental management plan

2.3 Project Activities during the Current Reporting Period

- 27. Contract for the consultant's services signed on 01.08.2018, construction activities have been commenced on 18.09.2018 for Lot 1.
- 28. Construction activities are ongoing, retaining walls, precast of concrete blocks production and installation and pavement works are in progress. No activities were carried out on the LOT 2, CC Akkord left site.
- 29. For the second lot (Lot 2) no construction activities were carried, Contractor abandoned the Site completely.
- 30. Site HSE inspections for construction works have been carried out since very beginning of the project. Progress of the works is given in the **Table 3** below.

Table 3: PROGRESS OF THE WORK, LOT 1 (BSG)

Progress of Work (A)

No	Description	Tota l Plac	Total Lengt h (m)		Completed (Except back fill)			In progre	ess	N	o comme	enced	Remarks
		e (Ea)	n (m)	Plac e (Ea)	Lengt h (m)	%	Plac e (Ea	Lengt h (m)	%	Plac e (Ea)	Lengt h (m)	%	
1	Pipe (D=1000m m)	65	794.3	63	772.9	97%	-	-	0%	2	21.4	3%	2+612,0+409,6+479
2	Pipe (D=1500m m)	32	469.9	32	469.9	100%	-		ο%	1	1	0%	
3	BOX - Culvert	11	188.3	10	171.3	91%	-	-	ο%	1	17.0	9%	km10+669
	RC Retaining Wall	64	2,518. 0	63	2,456.0	98%	-	-	0%	1	62.0	2%	km2+613~km2+675
4	*Additional	24	776.4	23	716.4	92%	_	-	0%	1	60.0	8%	km6+190,km6+480
	*Changed	2	86.5	2	86.5	100%	-	-	0%	-	-	0%	
	SUM	9	3,380 .9	88	3,258.9	96%	-	1	0%	2	122	4%	
	Lego Block Wall	27	2,670	27	2,670	100%	-	-	0%	-	-	0%	
5	*Additional	13	670	12	580	87%	-	-	о%	1	90	13%	
	* Changed	20	1,394	20	1,394	100%	-	-	0%	18	569	19%	
	SUM	6 0	4,734	59	4,644	98%	-	-	ο%	1	90	2%	
6	Gabion	6 8	3,011	50	2,442	81%	-	-	0%	18	569	19%	
7	Bridge	9	187	8	155	83%	-	-	0%	1	32	17%	Br.1a added

8	Granular Base		24,62 0		19,740	80%		-	0%		4,880	20 %	
9	Binder Course		24,62 0		19,720	80%		ı	0%		4,900	20 %	
10	Drainage Channel		13,59 3		7,703	57%		ı	0%		5,890	43 %	
11	Terramesh	1	25	1	25	100%	-	-	ο%	-	-	ο%	Changed from RC Wall
12	Green Terramesh	1	-	-	-	0%	-	ı	ο%	ı	-	ο%	changed to Others

As of end of December 2021

Progress of Work, LOT 2 (Akkord ICIC)

- 31. No progress in implementing of construction activities during July-Dec 2021 reporting period.
- 32. Construction activities have been monitored by CCs HSE officers on daily basis some photos from construction sites are provided in **Annex 1.**

2.4 Description of Any Changes to Project Design and Work scope Variation Orders, LOT 1/2

33. No variation orders issued for LOT1/2.

2.5 Description of Any Changes to Agreed Construction methods

34. During the reporting time period, the Contractor did not make any major changes in the construction method and design which may influence environmental effects to the project area.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

- 31. The Supervision Consultant will supervise and monitor the project construction process. The SC includes Environment Specialist (International & National) as part of their team to oversee the overall implementation of environmental management plan (EMP & SEMP), environmental monitoring, and compliance to the environmental requirements of ADB. SC Environmental Specialist prepare quarterly environmental monitoring reports required by ADB, monitor the environmental compliance of the Construction Contractor.
- 32. SEMP for LOT 2 was approved on 08.06.2020. Parametric measurements have not been carried out because of lock downs and restrictions associated with COVID 19 pandemic. Two HSE monitoring inspections have been carried out during the reporting period; relevant Non-Compliance Notes have been sent to Contractor.
- 33. Activities carried out by consultant companies (CSC) for both lots during the monitoring period (international and national, respectively) is provided in Table 4 below.

Table 4. Environmental Safeguards Activities Carried out by CSC during Reporting Period (July-December 2021) - Lot 1 and Lot 2

Environmental Safeguard Activities

According to the PAM hiring of interntional environmental specialist is not required.

The national environmental expert Shalva Bosikashvili of Supervision Consultant:

Pyunghwa Engineering Consultants Ltd, Yoshin Engineering Corporation and Roads

Rehabilitation and Modernization Supervision Direction Ltd:

- Performed Site HSE inspections (01.07.2021-31.12.2021).
- Prepared guarterly EMRs including SAEMR as of July-December 2021

Ensue the corrective actions are implemented by the deadline.

Note: International Environmental specialist is not involved in the project so far.

3.2 Site Monitoring/Audits

34. Even though COVID-19 pandemic situation, since Contractors have been executing works, Site HSE inspections have been undertaken during reporting period by Contractors Environmental Manager and Construction Consultant's Staff (relevant Non-compliance reports prepared and filed, see Annex 2). The summary of site inspections is provided in **Table 5** below.

Table 5. Summary of Site Inspections/Audits (Lot1/Lot2)

Date of visit	Name of Company	Auditor's name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Corrective actions	Status of action
01.07.2021	Akkord	Shalva Bosikashvili	Complianc e with HSE requireme nts, SEMP	- Construction materials (precast concrete, rebar, timber, sand and gravel) left uncontrolled on the ground surface alongside the road - Different waste is scattered alongside the road (spoil, timber, tree roots, domestic solid waste etc) - Deep cuts, trenches and pits, are without relevant barriers and warning signs - Oil drums outdoor, leaking backhoe and scattered waste at the construction base - Cracks on the ground surface at the spoil disposal area (landslide hazard).	Relevant Non- compliance notes submitted Letter PEC/RD/D CSRS/21- 084	Contractor should improve waste manageme nt alongside the road, install hard barriers an warning signs around deep holes, hazardous liquid should be placed at special dedicated area, etc.	Partially resolved. CC Akkord abandoned site.
16.11.2021	BSG	Shalva Bosikashvili	Complianc e with HSE requireme nts, SEMP	 Unacceptable housekeeping at the Kharagauli camp Open deep hole without hard barrier Workers without PPE, Power generator without drip tray Spoil stockpiles alongside the road 	Relevant Non- compliance notes submitted Letter PEC/RD/D CSRS/21- 084	Contrractor should improve hoskeeping at the camp, install hard barriers around deep holes, provide drip trays for power generaors, and dispose spoil	Resolved. 25.12.2021

		stockpiles at	
		the	
		dedicated	
		area.	

- 35. Non-compliance correction action reports have not been submitted yet. Because of frequent work activities suspension, associated with COVID 19 pandemic and governmental restrictions, CC was not able to carry out/complete relevant corrective actions during July-December 2021 reporting period.
- 36. Implementation Status of Corrective Actions proposed in the last environmental monitoring report (July-December 2021) is provided in the table 6 below.

Table 6: Implementation Status of Corrective Actions proposed in the last environmental monitoring report (Jan-Jun 2021)

	Issue	Required Action	Responsibility	Timing (Target Dates)	Description of Resolution and Timing (Actual)	If not yet resolved, indicate the reason why and specify further required action and timeframe.
1	Construction materials (precast concrete, rebar, timber, sand and gravel) left uncontrolled on the ground surface alongside the road	Remove spoil and dispose	HSE field Officer	14.07.2021	Not corrected, CC Akkord abandoned the cosntrrction site.	CC Akkord completely abandoned site (CC's contract was terminated and new contractor was not selected yet).
2	LOT 2 Different waste is scattered alongside the road (spoil, timber, tree roots, domestic solid waste etc)	Remove spoil and dispose	HSE field Officer	14.07.2021	Not corrected, CC Akkord abandoned the cosntrrction site	CC Akkord completely abandoned site (CC's contract was terminated and new contractor was not selected yet).
3	LOT 1 Unacceptable housekeeping at the Kharagauli camp	Organize site as required.	HSE field Officer	30.11.2021	Corrected timely.	CLOSED
4	LOT 1 Open deep hole without hard barrier	Use hards barriers at the deep pits.	HSE field Officer	30.11.2021	Corrected timely.	CLOSED
5	LOT 1 Workers without PPE	Use PPE.	HSE field Officer	30.11.2021	Corrected timely.	CLOSED
6	LOT 1 Spoil stockpiles alongside the road	Remove spoil from the road shoulders.	HSE field Officer	30.11.2021	Corrected timely.	CLOSED

3.3 Issues Tracking (Based on Non-Conformance Notices)

37. During HSE site inspections some non-conformances were detected. 4 Non-Conformances detected for LOT1 BSG and 5 Non-Conformances for LOT 2 (AKKORD) they were described in Non-Compliance Notes (see Annex 2) CC for LOT2 AKKORD have stopped all activities and left construction site. Environmental Issues Tracking Register is provided in **Table 7** below for the July-December 2021 reporting period.

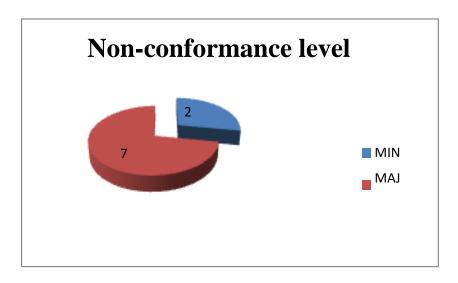
Table 7. Environmental Issues Tracking Register Book

No	Site / Location	Date Record ed	Category	Description of Issue /IEE Requirements	Issues No.	Issue Level	Due Date	Priority	Person Responsible	Status	Date Closed	Comments
1	Chumateleti- Kharagauli secondary road rehabilitation (Lot1)	14.07.2 021	Environmen t& HS	Compliance with HSE requirements, SEMP HSE Inspection Findings	4	Major	14.07.2 021	High	Contractor LOT1 (BSG)	closed	July 2021	Issues closed
2	Chumateleti- Kharagauli secondary road rehabilitation (Lot2)	16.11.2 021	Environmen t& HS	Compliance with HSE requirements, SEMP HSE Inspection Findings	5	Major	30.11.2 021	High	Contractor LOT2 (AKKORD)	closed	-	CC Akkord abandoned site

Table 8. Summary of Issues Tracking Activity for Current Period

Summary Table	
Total Number of Issues for Project	71
Number of Open Issues	5
Number of Closed Issues	58
Percentage Closed	81
Issues Opened This Reporting Period	5
Issues Closed This Reporting Period	4

Figure 2. Summary of Issues by Non-Conformance



3.4 Trends

- 38. Contractor LOT1 HSE performance generally satisfactory, relevant trainings are provided to the site staff, required documents and reports submitted, waste segregation and disposal procedure acceptable. Grievance redress system is established, the grievance boxes are located at the entrance of the Company Office in Kharagauli and entrance of the Camps (Kharagauli and Sagandzile). Lot 1.CC LOT2 Left the site with unguarded deep pits with different waste alongside the road.
- 39. For LOT 2 Engineer sent 3rd Notice to correct dated on 24th May 2021 regarding Contractor's failure such as stoppage of works and demobilization of all resources from the site, Contractor has continued the suspension of works and moreover, abandoned the site completely.

40. To identify trends in environmental issues, information from previous Bi-Annual EMR is used. The summary of the issues is provided in the **table 9** below.

Table 9: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed rate			
1. July 2018 – December 2018	2	100%	0%			
2. January – June 2019	12	75%	25%			
3. July 2019 – December 2019	12	67%	33%			
4. January - June 2020	4	0%	0%			
5. July-December 2020	54	66.6	0%			
6. January - June 2021	62	87	0%			
7. June-December 2021	71	81	0%			

41. Currently construction works are in progress at the LOT1 and associated non-compliances will be resolved in the nearest future. Construction works are stopped for LOT 2, CC AKKORD has abandoned construction site.

3.5 Unanticipated Environmental Impacts or Risks

42. So far unanticipated environmental impacts/risks are not identified. New COVID cases have not been identified during the reporting period.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

- 43. Environmental monitoring started immediately after the commencement of civil works.
- 44. According to the project EIA, periodic parametric measurements of air, noise and water quality for both lots should be carried out by the construction contractor according appropriate schedule. Locations of measurements are defined by the method statement for particular area.
- 45. During the reporting period the construction contractors (Lot 1 and Lot 2) have not been conducted monitoring. BSG LOT 1 Environmental Manager left company and not replaced with new person. LOT Akkord completely abandoned site. Noise and air pollution standards defined by IFC/WHO 1999 are presented in the **Table 10** and 9 below.

Table 10: Noise Level Guidelines

Noise		dB Regulations	dB WHO			
Receptor	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00	Daytime 07:00- 22:00	Nighttime 22:00- 07:00		
Residential; institutional; educational	55	45	55	45		
Industrial; commercial	70	70	70	70		

46. Air pollution standards by IFC/WHO 1999 are presented in the **Table 11** below.

Table 11: Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit) mg/m³))				
1	2				
Inorganic dust	(*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM2.5 and PM10).				

PM10 – 0,02/1 Year
0,05/24 Hour
PM2,5-0,01/1 Year
0,025/24 Hour

4.2 Trend

- 47. Contractor's HSE performance generally is partially satisfactory due to number of non-compliances mostly associated with COVID 19 pandemic restrictions e.g.measureements of environmental parameters (air, noise, water) and non-compliances with HSE requirements for Lot 1 and Lot 2. However, relevant trainings are provided to the site staff, required documents and reports submitted, waste segregation and disposal procedure established.
- 48. So far all mitigation measures identified within the project are effective.

4.3 Summary of Monitoring Outcomes

Last parametric measurements have been carried out on 04.07.2020. During the reporting period the construction contractors (Lot 1 and Lot 2) have not been conducted monitoring measurements because of difficulties associated with COVID 19 pandemic restrictions. Moreover, CC LOT2 Akkord completely left site and environmental manager for LOT2 left BSG and nobody replaced him.

[Lot1]

Engineer sent two times its request to Contractor but still no submittal by Contractor.

Letter ref. no.PEC/RD/DCSRS/21-149 dated on 22nd June 2021

Letter ref. no.PEC/RD/DCSRS/21-177 dated on 9th July 2021

[Lot 2]

Engineer sent two times its request to Contractor but still no submittal by Contractor.

Letter ref. no.PEC/RD/DCSRS/Lot2/21-074 dated 22nd June 2021

Letter ref. no.PEC/RD/DCSRS/Lot2/21-078 dated 12th July 2021

49. Next parametric measurements will be performed on quarterly basis according to IEE monitoring plan. Monthly HSE inspections have been carried out to monitor HSE culture and performance at the construction sites. Frequently identified issues are: Unacceptable housekeeping, heavy equipment operation without banksman, outdoor power generators working without drip trays and sufficient fire extinguishers, huge spoil/waste stockpiles, HSE

standards violation, trees damage.

50. SC and RD will monitor the improvements under the project and reflect findings in the next Bi- annual EMR as of January-June 2022 reporting period.

4.4 Material Resources Utilization

51. BSG obtained licenses for gravel and sand extraction (N10000836;N1000948;N1000491. N 10000686). Below table reflects production of inert material. The quarry processing projects within these licenses have been prepared.

4.4.1 Current Period

52. Permits for water use and water discharge obtained for the camp sites (LOT1 and LOT2). For current reporting time period water, gas and electricity consumption is given below:

Table 12

LOT1

Water	M3	2788
Gas	M3	3987
Electricity	KWT/Hour	372183

LOT 2

No activity

4.5 Waste Management

53. Waste segregation and disposal procedure established. Appropriate waste containers for hazardous and domestic waste are placed and labeled (see Annex 1). The warehouse of hazardous waste is arranged on Kharagauli camp site for Lot 1. Training of the personal was conducted. The agreement was signed with the local cleaning service and domestic waste is removed twice a week, also for hazardous waste disposal agreement has been concluded with relevant licensed company "Ecomedi" Ltd. For LOT2 non-hazardous waste disposal by Khashuri municipal cleaning service, for the hazardous waste disposal contractor company is not selected yet. Warehouse for the hazardous waste (LOT 2) is not arranged so far.

4.5.1 Current Period

54. Insignificant amount of hazardous waste kept in warehouse at Kharagauli camp (special

rooms with concrete floor and locked metal gate with warning). "Ecomedy" (licensed company) removed and disposed hazardous waste from the construction sites.. Domestic waste from the sites removed and disposed by the licensed contractor (Kharagauli Cleaning Service). During the reporting period spoil removal/disposal works were not carried out (LOT1). Spoil dumping area agreed with local municipality (same area used by Chinese company constructing the railway). Small volume of the hazardous waste is kept under the shelter in the containers and finally will be deposed by the licensed contractor LOT2. Non-hazardous waste disposed by the Khashuri Municipal cleaning service.

55. 10 MT domestic waste disposed and 12kg hazardous waste (kept in hazardous waste warehouse) generated during the reporting period for LOT 1. CC LOT 2 has not provided any information regarding waste disposal, CC Akkord completely abandoned the site.

4.6 Health and Safety

4.6.1 Community Health and Safety

56. BSG assigned H&S officer (Nick Jashiashvili) to oversee H&S performance at the construction sites and camps. During this reporting period no accidents have been identified and recorded in the H&S log book, some near misses were identified and recorded in the Noncompliance Notes and HSE Inspection reports (see relevant Annex 2).

4.6.2 Worker Safety and Health

- 57. During this reporting period no accidents have been recorded. Log books for HSE accidents prepared and kept at the camp site. HSE inspection carried out and identified some H&S non- compliances, particularly, heavy equipment working without banksman, PPE issues, rebar without capping, deep excavations and cuts without hard barriers, no flash lights at the hazardous places for nighttime warning.
- 58. Oleg Tabatadze was assigned as H&S officer for LOT 2 to oversee H&S performance at the construction sites and camp. During this reporting period no accidents/near misses have been identified and recorded in the H&S log book. Some near misses were identified and recorded in the Non-compliance Notes and HSE Inspection reports (see Annexes 3).
- 59. All H&S procedures associated with COVID-19 pandemic and recommended by WHO and Georgian government are addressed and followed. H&S plan has been updated according to ADB request. Special COVID 19 Emergency Response plan has been elaborated by CCs on 26.11.2020.

4.7 Training

60. HSE induction training was provided to the contractor's relevant staff. Daily tool boxes were carried out. Relevant training given to the personnel involved in the hazardous waste handling. Specific training regarding flora and fauna protection have been provided to the site

staff.

4.8 Grievance Redress Mechanism

- 61. 19 complaints were submitted and recorded in the log book during the reporting period for both lots. Status of complaints is given in table- Annex 3.
- 62. 3 complaints received during the reporting period. First complaint refers to building damage, second is regarding loss of access, third complaint refers to the applicant's request regarding the compensation for occupied land plot. All of them are still under review. For the details, please see ANNEX 3.

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

- 63. SEMP for LOT 1 has been submitted in October 2018, reviewed by Consultant Engineer, RD, ADB and with appropriate comments sent back, for the revision. During preparation of SEMP existing EMP was used as a baseline document by CC.
- 64. SEMP for LOT 1 was approved on 12.02.2019. SEMP for LOT 2 was approved on 18.06.2020
- 65. At this stage, presented mitigation measures are effective and there is no need for corrections or alternatives. So, no changes needed in the mitigation measures of the Environmental Management Plan at the moment. SEMPs for both Lots have been updated according to ADB's requirements and include anti-COVID –19 Measures.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

66. During the reporting period, the Contractors BSG (LOT1) and AKKORD ICIC (LOT2) timely provided the following:

BSG:

- Prepare and submit Scoping Reports for the Crusher and Batching Plant. Developed the Specific Environmental Management Plan and submitted it to the engineer;
- Timely deliver Monitoring Reports, and other documents
- Timely deliver the Health Safety Management Plan to the Engineer;
- Conclud the Agreement on removing of domestic waste;
- Conclude the agreement with licensed company "Ecomedi" for hazardous wastedisposal
- Provide Bio Toilets for the Construction Sites
- Provide safety equipment for the working personnel;
- Obtained technical regulations on water withdrawal permit from the Ministry of Environment Protection and Agriculture.
- Establish grievance redress system

6.2 Opportunities for Improvement

67. Provide relevant site staff with housekeeping and pollution prevention trainings, also provide field staff with H&S trainings, namely: i)Heavy Equipment Operation, ii) PPE, iii) Tripping & Slipping Hazards, iv) Deep Excavation Safety, v) Fire Safety etc.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

- 68. It should be highlighted that during the reporting time period the HSE performance of the Contractor was satisfactory. The actions of the Contractor didn't have any negative effect on biodiversity and no poaching actions were evident. No safety accident or near misses were identified. 19 grievances received from the local habitants and recorded in relevant logbook.
- 69. During the July-December 2021 reporting period construction activities were implemented on Lot 1. Contractor (BSG) have intensified all activities to improve the progress of the works on sites. Individual and Joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of Supervisor Consultant and RD on a regular basis.
- 70. Day-to-day monitoring of the construction sites were carried out by the Environmental Specialists of Contractor, relevant monitoring reports were developed and sent to Supervision Consultant.
- 71. Environmental Monitoring Specialist of Pyunghwa Engineering Consultants Ltd, Yooshin Engineering Corporation and Roads Rehabilitation and Modernization Supervision Direction Ltd, Mr. Shalva Bosikashvili conducted monthly monitoring of project sites. He also developed Semi-Annual environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submitted to RD.
- 72. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements for Rehabilitation of Dzirula Kharagauli –Moliti Pona Chumateleti Secondary Road project.
- 73. Environmental Specialist of RD, Ms. Luiza Bubashvili performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMPs, and other environmental commitments of the contractor.
- 74. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
- 75. In accordance with the EIA, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality, surface water quality, noise and socio-cultural resources.

- 76. Necessary instructions have been given to the Contractors by RD and SC to follow the ADB requirements for the LOT1 and LOT2.
- 77. The issues identified during this monitoring period are summarized in **Table 13**.

Table 13. Issues Identified During the Monitoring Period (July-December 2021) (including the pending issues from the previous report(s))

	Issue	Required Action	Responsibility	Timing (Target Dates)			
	LOT 1:			,			
1.	Open deep hole without hard barrier	Provide hard barriers and warning signs	BSG HS Manager	30.11.2021			
2.	Unacceptable housekeeping at the Kharagauli camp	Clean site, reinstate contaminated soil. Keep fuel and lubricants in the building or under shelter	BSG HS Manager	30.11.2021			
3.	Workers without PPE, power generator without drip tray	Provide field stuff with relevant HS trainings, provide drip trays for Generators	BSG HS Manager	30.11.2021			
4.	Spoil stockpiles alongside the road	Remove waste from the road shoulders and dispose as required	BSG HS Manager	30.11.2021			
5.	Contractor not conducted air, noise, water measrements	Carry out parametric Measurements	BSG Environmental Manager	30.11.2021			
	LOT 2						
6.	Construction materials (precast concrete, rebar, timber, sand and gravel) left uncontrolled on the ground surface alongside the road.	Construction materials should be placed at th edicatedd area and covered with tarpaulins.	Contracor	Not resolved. CC Akkord abandoned site (The contract was terminated and new contractor was not selected yet).			
7.	Different waste is scattered alongside	Contractor should improve waste	Contracor	Not resolved.			

	the road (spoil, timber, tree roots, domestic solid waste etc).	management alongside the road.		Not resolved. CC Akkord abandoned site (The contract was terminated and new contractor was not selected yet).
7.	Deep cuts, trenches and pits, are without relevant barriers and warning signs	Contractor should install hard barriers and warning signs around deep holes.	Contracor	Not resolved. CC Akkord abandoned site (The contract was terminated and new contractor was not selected yet).
8.	Oil drums outdoor, leaking backhoe and scattered waste at the construction base	Hazardous liquid should be placed at special dedicated area for hazardous materials.	Contracor	Not resolved. CC Akkord abandoned site (The contract was terminated and new contractor was not selected yet).
9.	Cracks on the ground surface at the spoil disposal area (landslide hazard).	Conduct survey of ground and in case of landslie hazard elaborate relevant mitigation measures.	Contracor	Not resolved. CC Akkord abandoned site (The contract was terminated and new contractor was not selected yet).

7.2 Recommendations

- 78. The following activities are planned for the next January June 2022 reporting period:
 - Quarterly parametric measurements of the air/water quality and noise/vibration should be scheduled and performed in time;
 - Undertake trainings for housekeeping improvement and pollution prevention;
 - Undertake H&S Trainings: Heavy equipment working procedure, PPE issues, rebar capping, deep excavations and cuts hazard prevention, nighttime warning signs.
 - Update SEMPs on anti-COVID measures.

ANNEXES:

Annex 1 - Site Photos

Earth Works



1-1. Earth Works







2. Pavement Works



Km 0+230 ~ Km 0+380(RHS) ; Excavation for Capping Layer



Kmo+400 ~ Kmo+780(RHS) ; Construction of Granular Bas e Course

3. Installation of RC Wall



Non-Compliance Notice

Project: Construction Supervision of Rehabilitation of Dzirula – Kharagauli – Moliti – Pona – Chumateleti Secondary Road	Non-compliance Notice			
Section (50 Km) –Lot 1	Rehabilitation of Dzirula –			
Contract No: SRIP/CS/QCBS-01	Kharagauli –Moliti – Pona – Chumateleti Secondary Road			
Contractor: BSG	Section (50 Km) –Lot 1 (Contractor-			
Reference: LOT 1 construction sites	BSG)			

This notice is to advice the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented **urgently.**

GENERAL COMMENT FOR ALL SITES:

All construction materials and wastes should be properly segregated and stored adequately, Oil spills should be prevented, Oil spill response kits and drip trays should be placed at the appropriate locations, Housekeeping must be improved, H&S culture should be established and maintained.

NON-COMPLIANCE at the Lot 1 construction sites

- Unacceptable housekeeping at the Kharagauli camp
- Workers without PPE, power generator without drip tray
- Spoil stockpiles alongside the road

Unacceptable housekeeping at the Kharagauli camp



Workers without PPE, power generator without drip tray



Spoil stockpiles alongside the road



All these conditions have to be remedied within 15 days by the prime Contractor (BSG).

Date of site visit: 16.11.2021 Shalva Bosikashvili - Environmental specialist - Roads Rehabilitation and Modernization Supervision Direction Ltd.

Luiza Bubashvili - Environmental Safeguard Consultant under ADB & EIB financed Projects (RD)

Non-Compliance Notice

Project: Construction Supervision of Rehabilitation of Dzirula – Kharagauli – Moliti – Pona – Chumateleti Secondary Road	Non-compliance Notice
Section (50 Km) –Lot 2	Rehabilitation of Dzirula –
Contract No: SRIP/CS/QCBS-01	Kharagauli – Moliti – Pona –
Contractor: Akkord ICIC	Chumateleti Secondary Road Section (50 Km) –Lot 2 (Contractor-
Reference:	Akkord ICIC)
LOT 2 construction sites	ARROIG IOIO

This notice is to advice the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented **urgently.**

GENERAL COMMENT FOR ALL SITES:

Site internally should be arranged properly and cleaned regularly. All construction materials and wastes should be properly segregated and stored adequately, Oil spills should be prevented, Oil spill response kits should be placed at the appropriate locations, Housekeeping must be improved, H&S culture should be established and maintained.

NON-COMPLIANCE at the Lot 2 construction sites

- Construction materials (precast concrete, rebar, timber, sand and gravel) left uncontrolled on the ground surface alongside the road
- Different waste is scattered alongside the road (spoil, timber, tree roots, domestic solid waste etc)
- Deep cuts, trenches and pits, are without relevant barriers and warning signs
- Oil drums outdoor, leaking backhoe and scattered waste at the construction base
- Cracks on the ground surface at the spoil disposal area (landslide hazard)

Construction materials (precast concrete, rebar, timber, sand and gravel) left uncontrolled on the ground surface alongside the road







Different waste is scattered alongside the road (spoil, timber, tree roots, domestic solid waste etc)









Deep cuts, trenches and pits, are without relevant barriers and warning signs









Oil drums outdoor, leaking backhoe and scattered waste at the construction base





Cracks on the ground surface at the spoil disposal area (landslide hazard)







All these conditions have to be remedied by the prime Contractor (Akkord ICIC).

Date of site visit:01.07.2021

Shalva Bosikashvili - Environmental specialist - Roads Rehabilitation and Modernization Supervision Direction Ltd,

Luiza Bubashvili - Environmental Safeguard Consultant under ADB & EIB financed Projects (RD)	

#	PC T#	Loan#	Project	Repeat/R e-open?	Form (verbal or written)	Recipi ent	Date Receiv ed	month 1	year1	Locatio n (section / KP)	Commu nity (City / Village)	Soc/Env &HSE	Name & contact of Complai nant	Complaint Category	Complaint Description	Resolution Description	Resoluti on	Resolu tion Date	Substa ntiated	Statu s	Days open	Comments
98			KCMP (Second ary RP)		Written	RD	22.07.2			km 12+318- km 12+358	Kharaga uli April 9 srtr.N1	Env&HS E	56001005 795 Tel.: 59722126 8	HSE Concerns	According to Mr. Khomasuridze his yard has landslided in the spring of year 2018 as a result of heavy rains. The geological conclusion about this issue exists. He requests to arrange reinforced concrete wall on the whole length of the yard, on the side of the road. Otherwise requests full compensation. Mr. Khomasuridze states, that due to the road rehabilitation, cracks has appeared on his house and requests observation on the cracks.	On 20.07.2021 the requests of Mr. Khomasuridze were studied in place (daba Kharagauli). The cracks on the house were marked, described and photo documented. The monitoring on the cracks will continue. On 22.07.2021 Employer was informed about the above mentioned in writing. On 11.10.2021 inspection of cracks previously marked on the walls of residential house was done.	Under review		Pending	Open	146	
99			KCMP (Second ary RP)		Written	RD	01.09.2 1			km 39+900	Kharaga uli village Tsipa	Social	Kokashvil i lason ID.: 56001010	Restriction or loss of access	Mr. Kokashvili states that the access road to his yard was	07.09.2021	Under review		Pending	Open	105	

									375 Tel.: 59923397 5		damaged in the process of road construction. Requests to restore the entrance road	letter was studied in place together with the author of the letter and representative s of the Municipality, the Employer was informed about this on 08.09.2021					
100		KCMP (Second ary RP)	Written	RD	01.09.2	km 5+816	Kharaga uli village Lashe	Social	Kharatish vili lagori ID: 56001009 909 Tel.: 59280830 5	Other	States that at km 5+816 construction of new auto pavillion is ongoing. The design envisages dismantling of existing auto pavillion. Mr. Kharatishvili asks not to dismantle existing pavillion, he desires to rent it and arrange shop there.	On 07.09.2021 the issue stated in the letter was studied in place together with the author of the letter and representative s of the Municipality, the Employer was informed about this on 08.09.2021	Under review	Pending	Open	105	
101		KCMP (Second ary RP)	Written	RD	02.11.2	km 10+050- km 10+120	Kharaga uli Chavcha vadze str. N 13	Social	Tkhelidze Davit ID 56001006 446 Tel.: 59922958 5	Inclusion in LARP		On 03.11.2021 the mentioed issue was studied in place. On 04.11.2021 the Employer was informed about the opinion of Supervision Engineer. On 17.11.2021 the Employer informed that he has no objection to pay compensation for the occupied land plot	Under review	Pending	Open	43	