

Semi-annual Environmental Monitoring Report

Project Number: **SRIP/CS/QCBS-01**

Reporting time period January 2019-June 2019

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

Financed by the Asian Development Bank

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July 2019

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ACRONYMS & ABBREVIATIONS

ADB	Asian Development Bank
SEMP	Specific Environmental Management Plan
DR	Department of Roads
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
SSEMP	Site Specific Environmental Management Plan
TOR	Terms of Reference

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1 INTRODUCTION

1.1 Preamble

1. This report represents the Semi – Annual Environmental Monitoring Review of Dzirula – Kharagauli –Moliti – Pona – Chumateleti Secondary Road Section (50 Km) Rehabilitation Project.
2. This report is the third Semi-annual EMR for the project.

1.2 Headline Information

3. Project design review and construction activities have been commenced in September 18, 2018. There is a protected area near the project related road section. The shortest distance between Borjomi-Kharagauli National Park (BKNP) and the existing project road is approximately 1.3 km. BKNP is separated from the existing project by a river gorge, which prevents 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 company „AKKORD” ICIC (Lot 2), started mobilization and set up office at Chumateleti, activity started in June 2019.
5. Some non-compliances have been identified during the reporting time period. Appropriate corrective action plan has been elaborated and implemented. Recently non-compliances were detected during last HSE inspection 18.07.2019, they were recorded and photos taken.
6. 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 an alternate route to parallel segments along E-60. 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

7. The project road is a 50.404-km west to east secondary road, starting from E60 in Dzirula and ending at E60 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 an alternate route to parallel segments along E-60.
8. The details of the proposed road project are:
 - Rehabilitate and pave the project road from Dzirula to Chumateleti according to Georgian National Standard for Public Motor Roads (SSTGzebi2009), Geometrical and Structural Requirements with 40 km/h design speed. The pavement within Kharagauli town may remain as is since this is still in fair to good pavement condition.

- Replace or repair of 19 bridges and 149 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.

9. For implementation purposes the project was divided into 2 separate sections of about 25 km each. First section (Construction Contractor „Black Sea Group”) covers the eastern ~ 25 km section of 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 40 km/h.
- Replacement of 11 existing bridges, and construction of 2 new bridges
- Construction of 108 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.

10. AKKORD ICIC has been selected as the Construction Contractor for LOT 2 (KP 24+620-KP 50+244), agreement has been concluded 04.12.2018. Mobilization is ongoing (started in June 2019), construction activities are not commenced yet.

11. 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: | 2 |
| • Lane width: | 3.00 m |
| • Carriageway width: | 6.00 m |
| • Width of shoulder: | 1.00 m (of which 0.50 m is paved) |
| • Increase of shoulder on embankment | 0.50 m |
| • Total road width: | 9.00 m |

12. The preliminary road design was carried out considering following design philosophy:

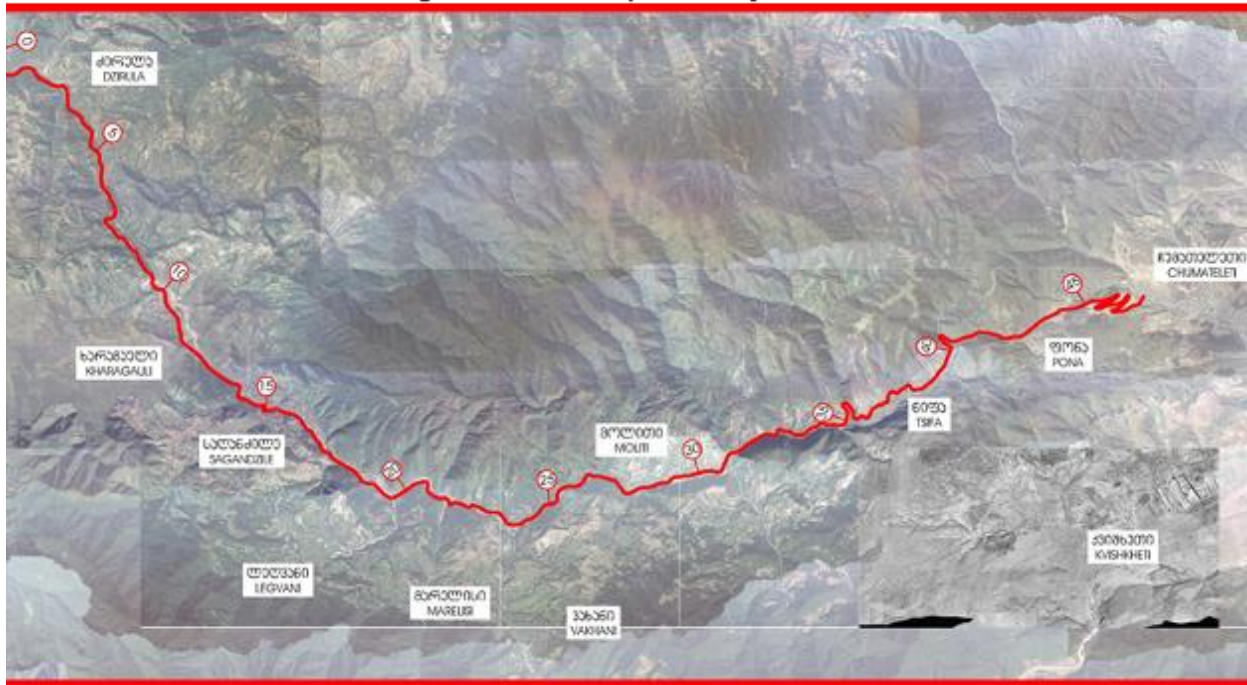
- The standards to be applied will follow the Georgian geometric design standard for the selected design speed of 40 km/h, with some flexibility in application when the strict application of the standards would result in an excessively costly technical solution.
- In general the design follows the existing 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.

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



13. The project is classified as category B for the environment under ADB's Safeguard Policy Statement (2009). Project implementation periods: 2018-2020.

14. The present Semi-annual Environmental Monitoring Report covers the period from January 2019 to June 2019.

2.2 Project Contracts and Management

15. Project Management Consultancy Services (PMCS) Contract was awarded to JV of Pyunghwa Engineering Consultants Ltd/ 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 two months.
- b. Phase 2—Construction supervision and contract administration. The construction period is for 2 years.
- c. Phase 3—Defects Notification Period, two years.

15. 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 thereafter 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.

16. All mitigation measures during construction are implemented respectively by the contractor companies: Black Sea Group LTD and AKKORD ICIC. Each contractor company has 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 Ms. Luiza Bubashvili. Environmental Specialists of SC and RD conducted routine observations and surveys of project sites.

17. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including "Site Environment Management Plan" (SEMP). Such plans can be further subdivided into Topic Specific or Site Specific EMP's. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.

18. 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. etc

19. 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.
20. 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 BSG	Environmental Specialist	Ketevan Nadirashvili 577 992959 Ketevan_Nadirashvili@BCGcom.ge	Georgian	16months
Supervision Consultant Pyunghwa Engineering Consultants Ltd/ Roads Rehabilitation and Modernization Supervision Direction Ltd	Environmental Specialist	Shalva Bosikashvili sbosikashvili@yahoo.com 595 116041 Cell Phone	Georgian	16months
ADB/RM	Head Office, Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD. ADB/RETA International Environmental Safeguards Consultant Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Duncan Lang dlang@adb.org Keti Dgebuadze Tel: +995 322 250619 Mob: +995 577 232937 E-mail: ketdgeb@yahoo.com kdgebuadze.consultant@adb.org Nino Nadashvili +995 595 070442 nnadashvili@adb.org	Georgian Georgian	
Roads Department/PIU	Environmental Safeguard Consultant under ADB & EIB financed Projects	Luiza Bubashvili Cell: +995595219141 Web: www.georoad.ge likabubashvili@yahoo.com	Georgian	

21. Construction Contractor for first lot (km 0+000 to km 24+620) is "Black Sea Group" LTD, for the second lot AKKORD ICIC (km 24+620 to km 50+244).

2.3 Project Activities During the Current Reporting Period

22. Contract signed on 01.08.2018, construction activities have been commenced on 18.09.2018.

23. Construction activities are ongoing, camp sites in Kharagauli and Sagandzile established, cutting trees, retaining walls and precast of concrete blocks production and installation are in progress.

24. Mobilization for the second lot construction is ongoing, construction contractor AKKORD ICIC established camp in Moliti. Construction activities for second lot road are not started yet.

25. Site inspections for construction works have been carried out since very beginning of the project. Progress of the works is given in the Table 2 below.

Table 2: PROGRESS OF THE WORK

Progress of Work (A)

#	Item Description	Contract Amount	Share in the Contract %	Cumulative Progress (%) for Current Month		
				Planned	Actual	Comparison
1	Bill No.1: General Requirements and Provisional Sums თავი #1: ზოგადი მოთხოვნები და პირობითი თანხები	627,600.00 ლ	1.52%	0.09%	0.01%	-0.08%
2	Bill No. 2: Setting Out and Site Clearance თავი #2: ძირითადი დაკვალვა და ობიექტის გაწმენდა	2,955,362.97 ლ	7.17%	0.28%	0.19%	-0.09%
3	Bill No. 3: Earthworks თავი #3: მიწის სამუშაოები	1,863,379.30 ლ	4.52%	0.26%	0.00%	-0.26%
4	Bill No. 4: Drainage თავი #4: დრენაჟი	8,550,218.31 ლ	20.75%	0.87%	0.11%	-0.75%
5	Bill No. 5: Pavement თავი #5: საგზაო სამოსი	7,817,944.75 ლ	18.98%	0.00%	0.00%	0.00%
6	Bill No. 6: Retaining Structures თავი #6: საყრდენი ნაგებობები	14,538,640.80 ლ	35.29%	3.26%	1.87%	-1.39%
7	Bill No. 7: Junctions and Private Entrances თავი #7: მიერთებები და კერძო შესასვლელები	351,231.47 ლ	0.85%	0.00%	0.00%	0.00%

8	Bill No. 8: Road Furniture and Markings თვი #8: გზის აღჭურვილობა და მონიშვნა	2,256,049.57 ლ	5.48%	0.00%	0.00%	0.00%
9	Bill No. 9: Bridge Construction თვი #9: ხიდების მშენებლობა	1,065,951.39 ლ	2.59%	0.00%	0.00%	0.00%
10	Bill No. 10: Rehabilitation of Existing Bridges თავი #10: არსებული ხიდები სრეაბილიტაცია	333,242.42 ლ	0.81%	0.00%	0.00%	0.00%
11	Bill No. 11: Miscellaneous თავი #11: სხვადასხვა	836,460.87 ლ	2.03%	0.00%	0.00%	0.00%
12	Material on Site			0.00%	0.00%	0.00%
13	Value of works executed on Variation Order					
14	Amount in respect of changes in Legislation & Escalation					
16	Total of Bills excl. VAT	41,196,081.84 ლ	100.00%	4.76%	2.18%	-2.58%

Progress of Works (B)

#	Work Items	Unit	Contract	Achieved Quantities	
				This Month	Cumulative
	Earthworks				
	Stripping of topsoil and stockpile for reuse	M3	3,820		
	Excavation of unsuitable and surplus material	M3	58,203		
	Excavation of acceptable and surplus in rock	M3	34,340		
	Excavation of unsuitable and surplus in rock	M3	32,477		
	Excavation of roadbed (clay-loam soils)	M3	18,162		
	Milling of existing asphalt and storage for re-use	M3	3,872		
	Stockpile topsoil and spread on embankment slopes	M3	3,872		
	Pavement				
	Capping Layer T=200 mm	M3	18,762		
	Granular crushed stone base T=200 mm	M3	37,506		
	Asphalt base T=180 mm	M2	2,110		

	Asphalt binder T=80 mm	M2	2,085		
	Asphalt binder T=100 mm	M2	176,390		
	Wearing Course nominal T=40mm	M2	177,478		
	Culverts and Drainage Works				
	Pipe culvert works (DN1,000 mm)	M	922		
	Pipe culvert works (DN1,500 mm)	M	358		
	Cast in-situ box culvert C25/30	M3	801		
	Sand & gravel for backfilling of culvert & drainage structure	M3	93,843		
	Precast open side ditch coupled with curbstones L=6,670	M3	880		
	Precast r/c drainage channel TD section drawings CST-04, CST-05, CST -06	M3	1,944		
	Road furniture, Accessories, Signs and Markings				
	Road marking (Type 1-1, 1-5, 1-6, 1-7)	M	71,179		
	Road Signs	Each	1,247		
	Safety metal barrier	M	18,461		
	Road side marker posts	Each	3,060		
	Bus passenger shelter	Each	9		
	Bridges Construction				
	Bridge No. 1	GEL	257,869.46		
	Bridge No. 2	GEL	245,003.96		
	Bridge No. 3	GEL	315,896.89		
	Bridge No. 4	GEL	268,935.20		
	Bridge No. 5	GEL	50,201.32		
	Bridge No. 6	GEL	6,668.93		
	Bridge No. 7	GEL	31,884.32		
	Bridge No. 8	GEL	220,771.83		
	Bridge No. 9	GEL	30,516.89		

	Retaining Structures				
601.1	Excavation in of clay-loam soils	M3	124,008	9141.43	25874.12
601.2	Excavation in rock	M3	13,733	621.67	3424.37
602.0	Backfill behind of retaining structures	M3	96,772	1396.74	4865.705
603	Cast in-situ R/C retaining walls	M3	7,326	542.26	3185.76
	Precast R/C foundation blocks for terramesh	M3	3,562	0	0
607	Precast "Lego" type concrete blocks	M3	11,915	1692	4382
	Green terramesh system (4.0 x 3.0 x 0.76 m)	Each	4,322	0	0
	Terramesh wall elements (4.0 x 2.0 x 1.0 m)	Each	2,374	0	0
	Gabion boxes (2 x 1 x 1 m)	Each	7,239	264	1348

		Summary table of Structure's Work Progress .												
											End of June 2019			
No	Type of structure	Total Place(Ea)	Total Length(m)	Completed (Except back fill)			In progress			No commenced			Remark	
				Place(Ea)	Length(m)	%	Place(Ea)	Length(m)	%	Place(Ea)	Length(m)	%		
1	Pipe (D=1000mm)	64	798.0	-	-	0%	-	-	0%	64	798	100%		
2	Pipe (D=1500mm)	28	350.5	-	-	0%	-	-	0%	28	351	100%		
3	BOX - Culvert	10	166	-	-	0%	1	31	19%	9	135	81%		
4	RC Retaining Wall	64	2,843	30	812	29%	3	150	5%	31	1,881	66%		
	*Additional	3	125	3	125	100%	-	-	0%	-	-	0%		
	SUM	67	2,968	33	937	32%	3	150	5%	31	1,881	63%		
5	Lego Block Wall	26	2,366	8	446	19%	6	588	25%	12	1,332	56%		
	*Additional	1	86	1	86	100%	-	-	0%	-	-	0%		
	SUM	27	2,452	9	532	22%	6	588	24%	12	1,332	54%		
6	Gabion	71	3,184	11	294	9%	2	44	1%	58	2,846	89%		
	*Additional	-	-	-	-	0%	-	-	0%	-	-	0%		
	SUM	71	3,184	11	294	9%	2	44	1%	58	2,846	89%		
7	Terramesh	10	530	-	-	0%	-	-	0%	10	530	100%		
8	Green Terramesh	10	789	-	-	0%	-	-	0%	10	789	100%		
9	Bridge	9	106	-	-	0%	-	-	0%	9	106	100%		

Some photos from construction sites are provided in Annex 1.

2.4 Description of Any Changes to Project Design

26. Relocation of Facilities

1) Electric Poles and Lines

Preparation of Contractor's final design and BoQ is still in progress.

2) Gas pipeline

Preparation of Contractor's final design and BoQ is still in progress.

3) Water pipeline

Water supply company's drawings preparation is in progress and it shall proceed in due course.

- 4) Existing bridge at Km 0+200 has been demolished, concrete remains and other waste disposed accordingly.

Variation Order

No.	Subject	Issued Date	Ammount (GEL)	Cummulative (Gel)
1	Demolition of Existing Bridge at Km 0+200	7 th March 2019	565,256.31	565,256.31

2.5 Description of Any Changes to Agreed Construction methods

27. During the reporting time period, the Contractor did not make any changes in the construction method.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

28. The Supervision Consultant will supervise and monitor the project construction process. The SC includes Environment Specialist (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 will prepare quarterly environmental monitoring reports required by ADB, monitor the environmental compliance of the Construction Contractor.

29. Contractor submitted all environmental reports and data according to the project EIA commitments. Prospective borrow pits have been selected, license obtaining process ongoing. Camp in Kharagauli and Sagandzile crusher have been arranged, relevant agreement with owner was concluded. Environmental documentation for the crusher and batching plant prepared. Relevant procedures and documents for the tree felling have been completed for LOT1. Parametric measurements of air, noise and water quality carried out on 29.03.2018, as required, on quarterly basis (see **Annex 2**). Technical regulations on water withdrawal agreed with the Ministry of Environment Protection and Agriculture. SEMP has been submitted in October 2018, reviewed by consultant engineer and by RETA International Environmental Consultant – Ketil Dgebuadze, after revision it was approved by PIU in February 2019.

30. SEMP for LOT2 submitted by the contractor AKKORD ICIC, review of the document is ongoing. Tree felling study and relevant documents preparation is ongoing. Camp for LOT 2 has been established in Moliti. Mobilization is ongoing.

3.2 Site Audits

31. Four site HSE inspections have been undertaken during reporting period (19.03.2019, 32.04.2019, 20.05.2019, 28.06.2019) by Contractors Environmental Manager and Construction Consultant Staff (relevant HSE Monitoring Reports prepared and filed, see **Annex 3**). The summary of site inspections is provided in **Table 3** below.

Table 3: Summary of site audits

Date of visit	Name of Company	Auditors name,	Purpose of audit	Summary of any significant findings	Cross reference to Audit report
19.03.2019	BSG	Shalva Bosikashvili	Compliance with HSE requirements, SEMP	1. Backhoe worked without banksman 2. Fuel tank was not placed in the secondary containment structure and roofed 3. All waste containers were without appropriate label.	Relevant verbal instructions were given to contractor All next non-compliances/findings will be recorded in non-compliance notice and will be submitted accordingly

23.04.2019	BSG	Shalva Bosikashvili	Compliance with HSE requirements, SEMP	<p>1. Grievance boxes were placed at the several locations</p> <p>2. Fuel tank placed in the secondary containment structure</p> <p>3. Car wash was without drainage system and oily water separator pit</p> <p>4. Area around the concrete washout pit was contaminated with concrete remains</p>	Relevant verbal instructions were given to contractor
20.05.2019	BSG	Shalva Bosikashvili	Compliance with HSE requirements, SEMP	<p>1. Power generators without drip trays, hand tools and timber scattered at the working area. KM 9+700</p> <p>2. Backhoe worked without banksman .</p> <p>3. Ground surface down the batching plant contaminated with concrete. Relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.</p>	<p>1. Contractors filed staff has been provided with relevant training on pollution prevention.</p> <p>2. Contractors filed staff has been provided with relevant training on heavy equipment operation procedure</p> <p>3. Special channel has been arranged for batching plant washout water discharge to the pit and concrete contaminated water is not spread on the ground surface any more.</p>
28.06.2019	BSG	Shalva Bosikashvili	Compliance with HSE requirements, SEMP	<p>1. Spoil and other waste should be removed accordingly</p> <p>2. Drainage ditch arranged at the batching plant for the washout discharge to the</p>	

				<p>pit.</p> <p>3. Outdoor power generator without drip trays and sufficient fire extinguishers.</p>	
18.07.2019	BSG	<p>Duncan Lung, Keti Dgebuadze, Keti Nadirashvili, Shalva Bosikashvili, Gia Sopadze</p>	<p>Compliance with HSE requirements, SEMP</p>	<p>1.The volume of the secondary containment is less than 110% of the diesel tank's capacity.</p> <p>2.Car maintenance should be performed at special dedicated area with a concrete pad and equipped with Spill Response Equipment. Evidence of vehicle maintenance close to the river was identified and this should be strictly forbidden.</p> <p>3. The camp is bordering the river from one side, to avoid putting inert materials from the camp territory into the river, concrete or block fencing should be installed within the camp boundary and trees along the banks should be accordingly protected.</p> <p>4. PPE/H&S:</p>	<ol style="list-style-type: none"> 1. Reconstruction and light roof arrangement is ongoing 2. Special area has been defined for the machinery maintenance (former garage), all works outside the above mentioned area forbidden utterly. 3. Fence reinforcement is ongoing to prevent contaminants contact with bordering river. 4. Field staff has been provided with PPE training.

				Not all workers on camp site were wearing a full set of PPE including safety boots and helmets. CC was recommended to record all 'near misses' in the H&S logbook.	
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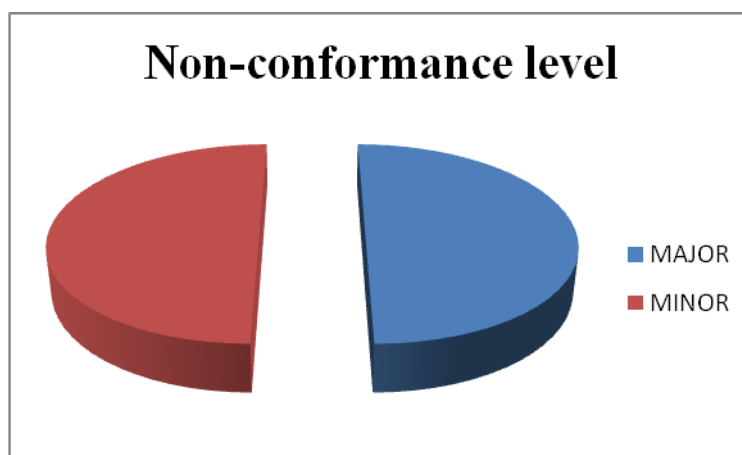
3.3 Issues Tracking (Based on Non-Conformance Notices)

33. During HSE site inspections some non-conformances were detected. 7 Non-Conformances detected by ADB mission were described in Missions Notes (15.02.2019); relevant correction action plan has been prepared and implemented. Photos of site visits are provided in Annex 3 (HSE Reports).

Table 4. Summary of Issues Tracking Activity for Current Period

Summary Table	
Total Number of Issues for Project	16
Number of Open Issues	7
Number of Closed Issues	9
Percentage Closed	57
Issues Opened This Reporting Period	12
Issues Closed This Reporting Period	7

Figure 2. Summary of Issues by Non-Conformance



3.4 Trends

34. Contractor's 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 established, the grievance boxes are located at the entrance of the Company Office in Kharagauli and entrance of the Camps (Kharagauli and Sagandzile).

35. To identify trends in environmental issues information from previous Semi-Annual EMR (July-January 2019) is used. The summary of the issues is provided in the table 5 below.

Table 5: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
1 July-December 2019	2	100%	0%
2 January-July 2019	12	75%	25%

Note: First Semi-annual EMR has been submitted when actual construction activities were not commenced.

3.5 Unanticipated Environmental Impacts or Risks

36. So far unanticipated environmental impacts/risks are not identified.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

37. Environmental monitoring started immediately after the commencement of civil works.

38. According to the project EIA, periodic parametric measurements of air, noise and water quality will be carried out by the construction contractor according appropriate schedule. Locations of measurements will be defined by the method statement for particular area.

39. During the reporting period the construction contractor conducted monitoring of the following sites:

- Camp and construction sites,
- Installation of batching plant and crusher (relevant documentation prepared and submitted)
- Tree felling

40. Parametric measurements of air, noise and water quality have been carried out in March 2019 by Ltd. "Greentecs". Results of measurements are presented in Annex 2. Water samples have been taken from: r.Dzirula; r.Jirjaura (r.Chkhirimela tributary), r.Leghvanura (r.Chkhirimela tributary), r.Chkhirimela). Air and noise measurements have been carried out near the Sgandzile and Dzirula schools. Pre-construction baseline measurements haven't been carried out yet for LOT 2.

41. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 6 and 7 below.

Table 6: Noise Level Guidelines

Noise	dB		dB	
	National Regulations		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

Air pollution standards by IFC/WHO 1999, are presented in the Table 10 below. Activities in the river bed may increase sediment particles in the water stream (relevant benchmark given in the table column 5 - Annex 2). All components of the nearby surface water quality will be monitored till the end of the project. All Activities in the water streams are forbidden to avoid contamination by the technical fluids, spawning period is addressed as indicated in the relevant SEMP and no activities have been carried in the water streams during that time (May-September 2019).

Table 7: Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit mg/m ³))
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

Table 8: Environmental Quality (Air & Noise) Measurement Data, BSG - LOT1

Sampling Place coordinates	Noise dB	Dust mg/m ³	Dust mg/m ³
		Pm 2.5	Pm 10
X -0347894	AV 47.3	AV 30	AV 35
Y -4660155	MAX 83.1	MAX 61	MAX 82
Dzirula school			
X -0353534	AV 49.5	AV 31	AV 37
Y -4651009	MAX76.5	MAX 58	MAX 69
Sagandzile school			

Note: Maximum levels (first data) of the noise are identified during day time, when train or vehicles move near the school, average level indicated above and not exceed allowable limit. Vibration monitoring has not been carried out yet, it starts as soon as soil compaction activity will commence. In addition to this, works were avoided in the river during May in terms of fish spawning.

4.2 Trend

42. Contractor's HSE performance generally satisfactory, relevant trainings are provided to the site staff, required documents and reports submitted, waste segregation and disposal procedure established. Noise and vibration levels are permanently controlled at the sensitive locations.

43. So far all mitigation measures identified within the project are effective.

4.3 Summary of Monitoring Outcomes

44. Parametric measurements have been carried out on 23.03.2019 (please see Annex 2). Next parametric measurements will be performed on quarterly basis according to ADB guidelines. 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.

45. SC and RD will monitor the improvements under the project and reflect findings in the next Semi-annual EMR in July-December 2019.

4.4 Material Resources Utilisation

46. BSG obtained licenses for gravel and sand extraction (N10000489; 10000490;10000491-22.01.2019). Below table reflects production of inert material, cement and reinforcement.

Table 9: Production of Inert Material

#	Description	Unit	Previous Quantity in Stock	Current Production	Current Quantity in Stock	#
			(A)	(B)	(D) = (A) + (B) - (C)	
	Sand 0-5	m ³	1,000	3,882	3,974	
	Gravel 5-10	m ³	2400	798	1896	
	Gravel 10-16	m ³	-	-	-	
	Gravel 10-18	m ³	2450	-	2450	
	Gravel 10-20	m ³	500	2993	3076	
	Gravel 16-32	m ³	-	-	-	
	Sand-Gravel for Subbase	m ³	-	-	-	
	Base 0-40	m ³	-	-	-	

	Gravel 20-40	m ³	1500	500	2000	
	Gravel 0-120	m ³	10 000	500	10 500	
	Gabion&Terramesh Material 100-200	m ³	3 575	1,000	4 757	
	Rocks 300-800 mm	m ³	200	500	500	
	Rocks 500-1000 mm	m ³	-	-	-	
	Sand - Gravel Mix for shoulders	m ³	-	-	-	
	Lego Blocks	unit	800	3290	4 090	
	R/C foundation blocks for terramesh and green terramesh	unit	-	230	230	
	Pre-Cast RC Pipe D=1000	m	160	-	160	
	Pre-Cast RC Pipe D=1500	m	-	-	-	
	Gabion Box 2x1x1	unit	900	1,700	2 600	
	Gabion Box 1,5x1x1	Unit	-	240	240	
	Terramesh Box 4x2x1	Unit	-	240	240	
	Green Terramesh 4x3x0,76	Unit	-		-	

Production / Purchase and Delivery of Pre Fabrics and Plants

No.	Description	Unit	Quantity	Country / Place of Origin	Status	Delivery Time
-----	-------------	------	----------	------------------------------	--------	------------------

1	Cement	tn	1000			
2	Reinforcement	tn	200			

4.4.1 Current Period

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

Table 10

Water	M ³	427
Gas	M ³	3928
Electricity	KWT/Hour	172980

4.5 Waste Management

48. 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. 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 (15.03.2019) has been concluded with relevant licensed company „Ecomedi”. During the reporting period, as a result of the cutting of rocks, were produced 18040 m³inert material, which have been removed and disposed on the approved(permit has been obtainedfrom the local self-governance - from Zestafoni municipality) landfill.

4.5.1 Current Period

49. Insignificant amount of hazardous waste(~50kg) kept in warehouse at Kharagauli camp (special rooms with concrete floor and locked metal gate with warning), based on small volume of the hazardous waste, contract for the hazardous waste disposal with relevant company is not concluded yet. 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. Spoil dumping area agreed with local municipality (same area used by Chinese company constructing the railway).

4.6 Health and Safety

4.6.1 Community Health and Safety

50.BSG assigned H&S officer (Nick Jashiashvili) to oversee H&S performance at the construction sites and camps. Some near misses have been identified during supervisor’s HSE inspections and recorded in the H&S Log book, in particular: heavy equipment operation without banksman, rebar without capping, lack of road safety items, PPE issues.

4.6.2 Worker Safety and Health

51. During this reporting period no accidents or near misses have been recorded. Log book for HSE accidents prepared and kept at the camp site. HSE inspection carried out 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.

4.6.3 Training

52. 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. (Please see Annex 4).

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

53. 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.

54. SEMP for LOT 1, was prepared by the Contractor BSG, endorsed by SC and approved by RD and reviewed/commented by the RETA International Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze. SEMP for LOT 2 submitted by the contractor company AKKORD ICIC and it is currently under Supervisor Consultant's review.

55. 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.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

56. 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;
- Conclude the Agreement on removing of domestic waste;
- Conclude the agreement with licensed company “Ecomedi” for hazardous waste disposal
- 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

AKKORD ICIC:

- Timely Submitted SEMP for LOT2 (Mobilization started in June 2019).

6.2 Opportunities for Improvement

57. Provide relevant site staff with housekeeping and pollution prevention trainings, also provide field staff with H&S trainings- Heavy Equipment Operation, PPE, Tripping & Slipping Hazards, Deep Excavation Safety, Fire Safety etc

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

58. 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. 7 grievances received from the local habitants and recorded in relevant log book.

59. During the reported period construction activities were implemented only on the 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.

60. 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.

61. Environmental Monitoring Specialist of Pyunghwa Engineering Consultants Ltd/ 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 submit to RD.

62. 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.

63. Environmental Specialist of RD ADB Ms. Luiza Bubashvili performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP's, and other environmental commitments of the contractor.

64. Also unscheduled monitoring visits were carried out and Non-Conformance Notice has been issued to the contractor by the environmental specialist of UWSCG/USIIP if needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.

65. In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality, noise and socio-cultural resources.

66. Necessary instructions have been given to the Contractors by RD and SC to follow the SEMP's requirements for the LOT1 and LOT2.

7.2 Recommendations

67. The following activities are planned for the next July – December 2019 reporting period:

- Construction Contractor AKKORD should complete SEMP for LOT2 reviewed by SC, RD ADB – 30 October 2019;
- AKKORD ICIC shall carry out baseline parametric measurements of air quality, noise, water quality and vibration – October 2019;
- Quarterly parametric measurements of the air/water quality and noise/vibration should be scheduled and performed in time – Q3-Q4 2019;

- Undertake trainings for housekeeping improvement and pollution prevention – Q3-Q4 2019;
- Undertake H&S Trainings: Heavy equipment working procedure, PPE issues, rebar capping, deep excavations and cuts hazard prevention, nighttime warning signs – Q3-A4 2019.

ANNEXES:

Annex 1: Site Photos





Annex 2 – Baseline Measurements of noise, air and water quality (March 2019)





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№2/14

"29" 03. 2019 წ.

ძირულა - ხარაგაული - მოლითი (ძირულა- ჩუმათელეთის პკ 0+00 დან 24+620

გზის რეაბილიტაცია) პროექტი.

მდინარე ძირულა, ჩხერიმელა და მის შემონაკადებზე წყლის ხარისხის

ფონური გაზომვის შედეგები.

2019 წ. 23 მარტი 14⁰⁰ – 17⁰⁰

№	წყლის ობიექტის დასახელება	კოორდინა ტები	გაზომილი პარამეტრების მაცვენებლები			
			ჟანგბადი მგ/ლ	შეწონილი ნაწილაკები მგ/ლ	TPH მგ/ლ	E-Coli
1	მდ. ჩხერიმელა ზედა წელი	0356736 4648763	11.1	56.6	<0.01	2000
2	მდ. ჩხერიმელა შუა მონაკვეთი	0354965 4650326	10.9	56.9	<0.01	3500
3	ჯირჯაურა მდ. ჩხერიმელას შემონაკადი	0353453 4651046	10.4	47.2	<0.01	2000
4	ხარაგაული, ხიდი	0351753 4652493	10.8	68.7	<0.01	3800
5	მდ. ძირულა ხიდი	0347712 4660190	10.8	110.8	0.01	5000

დირექტორი



ილია მცხვეთაძე



საქართველო, 0131, თბილისი, გ. ბრწინვალეს ქ. 21, ბ.12, ტელ: 595-30-01-24, E-mail: waterdept_imt@yahoo.com
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№2/15

"29" 03. 2019 წ.

ძირულა - ხარაგაული - მოლითი (ძირულა- ჩუმათელეთის პკ 0+00 დან 24+620 გზის
რეაბილიტაცია) პროექტი

ჰაერის – PM 2.5 + PM10 და ხმაურის ზეგერის დონის ფონური გაზომვის შედეგები.

2019 წ. 22 მარტი 14⁰⁰ – 16¹⁰

№	გაზომვის წერტილის აღწერა	კოორდინატები	გაზომვის შედეგები		
			მტვერი მკგ/მ³		ხმაურის ვეგერის დონე დბ Amax
			Pm2.5	Pm10	
1	სოფელ ძირულას სკოლასთან	x – 0347894 y - 4660155	30	35	47.3
			61*	82*	83.1*
2	სოფელ საღანძილეს სკოლასთან	x - 0353534 y - 4651009	31	37	49.5
			58*	69*	76.5*

*- გაზომვები ჩატარებულია სატვირთო მანქანების მოძრაობის დროს.

ამინდის პირობები: შტილი, ნაწვიმარის შემდეგ.

დირექტორი

(Handwritten signature)



ილია მცხვეთაძე

Annex 3: HSE INSPECTION REPORTs

HSE INSPECTION REPORT

Date & Time: 19.03.2019

Location: Kharagauli

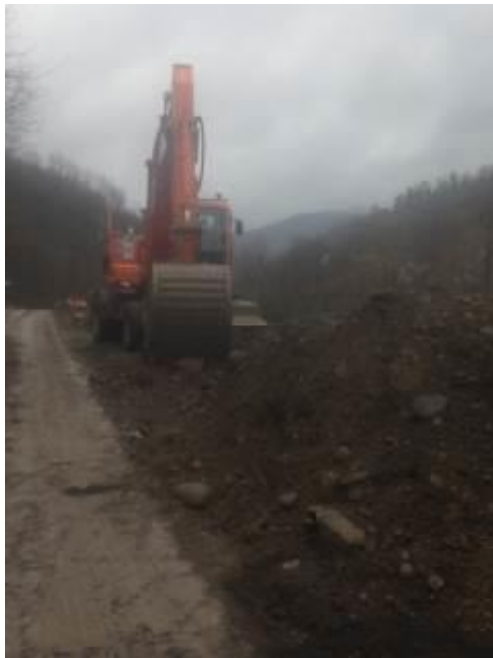
Subject of Inspection: HSE practice/Performance and culture on site

Supervisor: Jun Gu Kim

Contact Details:

People Interviewed:

No	Name	Position	Comment
1	Geno Akopashvili	Project Manager	
2	Nick Jashiashvili	Field HSE Manager	



Backhoe works without banksman



Fuel tank should be placed in the secondary containment structure and roofed



All waste containers should be clean and with appropriate label.

General Housekeeping

- Unacceptable at the construction sites.

H&S

- Information board and restriction signs are placed at the entrance.
- Entrance is controlled by security guard; enter for visitors are allowed after registration.
- Blinkers and hard barrier should be installed where needed

--

Sanitation

- | |
|--------------------------------------------------------------------|
| <ul style="list-style-type: none">• Toilet is clean. |
|--------------------------------------------------------------------|

Personal Protective Equipment (PPE)

- | |
|----------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• PPE in place. Some workers don't wear PPE. |
|----------------------------------------------------------------------------------------------|

Vehicles & Equipment Safety

- | |
|--------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Vehicles and heavy equipment in acceptable condition |
|--------------------------------------------------------------------------------------------------------|

Accident Reporting

- | |
|-----------------------------------------------------------------------------|
| <ul style="list-style-type: none">• No accident was reported. |
|-----------------------------------------------------------------------------|

Medical Cover

- | |
|-----------------------------------------------------------------------------|
| <ul style="list-style-type: none">• No medical cover on site. |
|-----------------------------------------------------------------------------|

Fire Safety

- Fire action board is placed on site.
- Fire extinguishers are placed on the action board

Emergency Response

- Emergency Response plan is elaborated and Master Point is defined and announced

Training

- All site personnel are trained; training record and hard copies are kept at the office;
- Spill/Contamination prevention and Vehicle/Heavy equipment inspection trainings should be carried out for the relevant contractor's staff.
- Training should be provided to the staff regarding Housekeeping at the construction site and include this issue in daily Toolbox talks.

Environment

- Only non hazardous waste wheelie bins are provided and placed where necessary.
- Drip trays should be provided and used at the vehicle/ heavy equipment maintenance area/ Re-fuelling points and generator
- No Spill Response Equipment on site; Spill kits should be placed at the vehicle and heavy equipment maintenance area, fuel and lubricant storage and refueling points.
- Waste storage and disposal should be improved.
- All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment.
- General housekeeping is acceptable
- Power generator should be placed in the sufficient drip tray or concrete fuel/oil containment band

should be arranged around.

Social:

- No social issues were raised; all the activities are being preliminary agreed with local government representatives. Hard copies kept in office.

Cultural heritage:

- N/A

Other (specify):

Inspector (s):

ShalvaBosikashvili

Environmental Specialist

Name

Position

Nick Jashiashvili

HSE Manager

Name

Position

HSE INSPECTION REPORT

Date & Time: 23.04.2019

Location: Kharagauli

Subject of Inspection: HSE practice/Performance and culture on site

Supervisor: Jun Gu Kim

Contact Details:

People Interviewed:

No	Name	Position	Comment
1	Geno Akopashvili	Project Manager	
2	Nick Jashiashvili	Field HSE Manager	



Grievance boxes are placed at the several locations



Fuel tank placed in the secondary containment structure, light roof should be constructed.



All waste containers should be clean and with appropriate label.



Car wash should be equipped with drainage system and oily water separator pit.



Area around the concrete washout pit is contaminated with concrete remains, relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.

General Housekeeping

- Unacceptable at the construction sites.

H&S

- Information board and restriction signs are placed at the entrance.
- Entrance is controlled by security guard; enter for visitors are allowed after registration.
- Blinkers and hard barrier should be installed where needed

Sanitation

- Toilet is clean.

Personal Protective Equipment (PPE)

- PPE in place. Some workers don't wear PPE.

Vehicles & Equipment Safety

- Vehicles and heavy equipment in acceptable condition

Accident Reporting

- No accident was reported.

Medical Cover

- No medical cover on site.

Fire Safety

- Fire action board is placed on site.
- Fire extinguishers are placed on the action board

Emergency Response

- Emergency Response plan is elaborated and Master Point is defined and announced

Training

- All site personnel are trained; training record and hard copies are kept at the office;
- Spill/Contamination prevention and Vehicle/Heavy equipment inspection trainings should be carried out for the relevant contractor's staff.
- Training should be provided to the staff regarding Housekeeping at the construction site and include this issue in daily Toolbox talks.

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- Waste storage and disposal should be improved.
- All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment.
- General housekeeping is acceptable
- Power generator should be placed in the sufficient drip tray or concrete fuel/oil containment band should be arranged around.
- Area around the concrete washout pit is contaminated with concrete remains, relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.

Social:

- No social issues were raised; all the activities are being preliminary agreed with local government representatives. Hard copies kept in office.

Cultural heritage:

- N/A

Other (specify):

Inspector (s):

ShalvaBosikashvili

Environmental Specialist

Name

Position

Nick Jashiashvili

HSE Manager

Name

Position

HSE INSPECTION REPORT

Date & Time: 20.05.2019

Location: Kharagauli

Subject of Inspection: HSE practice/Performance and culture on site

Supervisor: Jun Gu Kim

Contact Details:

People Interviewed:

No	Name	Position	Comment
1	Geno Akopashvili	Project Manager	
2	Nick Jashiashvili	Field HSE Officer	



Power generators without drip trays, hand tools and timber scattered at the working area. KM 9+700



Backhoe worked without banksman .



Ground surface down the batching plant contaminated with concrete. Relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.



Car wash should be equipped with drainage system and oily water separator pit.

General Housekeeping

- Unacceptable at the construction sites.

H&S

- Information board and restriction signs are placed at the entrance.
- Entrance is controlled by security guard; enter for visitors are allowed after registration.
- Blinkers and hard barrier should be installed where needed

Sanitation

- Toilet is clean.

Personal Protective Equipment (PPE)

- PPE in place. Some workers don't wear PPE.

Vehicles & Equipment Safety

- Vehicles and heavy equipment in acceptable condition

Accident Reporting

- No accident was reported.

Medical Cover

- No medical cover on site.

Fire Safety

- Fire action board is placed on site.
- Fire extinguishers are placed on the action board

Emergency Response

- Emergency Response plan is elaborated and Master Point is defined and announced

Training

- All site personnel are trained; training record and hard copies are kept at the office;
- Spill/Contamination prevention and Vehicle/Heavy equipment inspection trainings should be carried out for the relevant contractor's staff.
- Training should be provided to the staff regarding Housekeeping at the construction site and include this issue in daily Toolbox talks.

Environment

- Only non hazardous waste wheelie bins are provided and placed where necessary.
- Drip trays should be provided and used at the vehicle/ heavy equipment maintenance area/ Re-fuelling points and generator
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- Waste storage and disposal should be improved.
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- General housekeeping is acceptable
- Power generator should be placed in the sufficient drip tray or concrete fuel/oil containment band should be arranged around.
- Area around the concrete washout pit is contaminated with concrete remains, relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.

Social:

- No social issues were raised; all the activities are being preliminary agreed with local government representatives. Hard copies kept in office.

Cultural heritage:

- N/A

Other (specify):

Inspector (s):

ShalvaBosikashvili

Environmental Specialist

Name

Position

Nick Jashiashvili

HSE Manager

Name

Position

HSE INSPECTION REPORT

Date & Time: 28.06.2019

Location: Kharagauli

Subject of Inspection: HSE practice/Performance and culture on site

Supervisor: Jun Gu Kim

Contact Details:

People Interviewed:

No	Name	Position	Comment
1	Geno Akopashvili	Project Manager	
2	Nick Jashiashvili	Field HSE Officer	



Spoil and other waste should be removed accordingly



Drainage ditch arranged at the batching plant for the washout discharge to the pit.



Outdoor power generator without drip tray and sufficient fire extinguisher.

General Housekeeping

- Unacceptable at the construction sites.

H&S

- Information board and restriction signs are placed at the entrance.
- Entrance is controlled by security guard; enter for visitors are allowed after registration.
- Blinkers and hard barrier should be installed where needed

Sanitation

- Toilet is clean.

Personal Protective Equipment (PPE)

- PPE in place. Some workers don't wear PPE.

Vehicles & Equipment Safety

- Vehicles and heavy equipment in acceptable condition

Accident Reporting

- No accident was reported.

Medical Cover

- No medical cover on site.

Fire Safety

- Fire action board is placed on site.
- Fire extinguishers are placed on the action board

Emergency Response

- Emergency Response plan is elaborated and Master Point is defined and announced

Training

- All site personnel are trained; training record and hard copies are kept at the office;
- Spill/Contamination prevention and Vehicle/Heavy equipment inspection trainings should be carried out for the relevant contractor's staff.
- Training should be provided to the staff regarding Housekeeping at the construction site and include this issue in daily Toolbox talks.

Environment

- Only non hazardous waste wheelie bins are provided and placed where necessary.
- Drip trays should be provided and used at the vehicle/ heavy equipment maintenance area/ Re-fuelling points and generator
- No Spill Response Equipment on site; Spill kits should be placed at the vehicle and heavy equipment maintenance area, fuel and lubricant storage and refueling points.

- Waste storage and disposal should be improved.
- All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment.
- General housekeeping is acceptable
- Power generator should be placed in the sufficient drip tray or concrete fuel/oil containment band should be arranged around.
- Area around the concrete washout pit is contaminated with concrete remains, relevant mitigation measures should be implemented ASAP to prevent nearby river contamination.
- **Dust significant generation has been detected during the sites inspection, road should be watered sufficiently.**

Social:

- No social issues were raised; all the activities are being preliminary agreed with local government representatives. Hard copies kept in office.

Cultural heritage:

- N/A

Other (specify):

Inspector (s):

Shalva Bosikashvili

Environmental Specialist

Name

Position

Nick Jashiashvili

HSE Manager

Name

Position


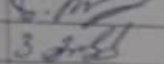
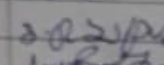

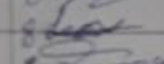
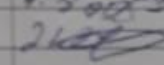
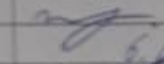
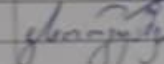
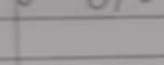
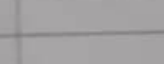
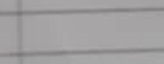

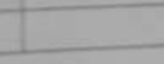
Training Attendance Form

This form is completed by the person responsible for training and must be submitted to the Department of Human Resources at the end of training

Name of training: Հանրային ծառայության հիմնական դասընթաց

Date of training: 25.03.2019

Trainer's full Name: Արմեն Սարգսյան, Երազման Սարգսյան

N	Name/Surname	Duty/Department/Position	Signature	Contact Details
1	Արմեն Սարգսյան	Լիցենզիայի տեսչություն		
2	Երազման Սարգսյան	ԲԾԶ		529-17-30-29
3	Յուրի Մանուկյան	ԲԾԶ		551-76-17-52
4	Յուրի Մանուկյան	ԲԾԶ		521-15-38-80
5	Լևոն Գևորգյան	ԲԾԶ		535 34 94 92
6	Լևոն Գևորգյան	ԲԾԶ		509-55-92-98
7	Լևոն Գևորգյան	ԲԾԶ		674-99-87-94
8	Լևոն Գևորգյան	ԲԾԶ		
9	Լևոն Գևորգյան	ԲԾԶ		
10	Լևոն Գևորգյան	ԲԾԶ		
11	Լևոն Գևորգյան	ԲԾԶ		
12	Լևոն Գևորգյան	ԲԾԶ		
13	Լևոն Գևորգյան	ԲԾԶ		
14				
15				
16				
17				
18				
19				
20				

Trainer: Լ. Սարգսյան Place of training: Երևան, Գևորգյանի պողոտա

General Evaluation: Բավարարիչ

Գևորգյան