

# Bi-annual Environmental Monitoring Report

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Project Number: 3520-GEO

Reporting period: January – June 2018

## Republic of Georgia: Batumi Bypass Road Project Financed by the Asian Development Bank

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**For:** the Road's Department of Ministry of Regional Development and Infrastructure of Georgia.

**Endorsed by:** Levan Kupatashvili, Deputy Chairman of Road's Department

**August 2018**

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## Abbreviations

<b>ADB</b>	Asian Development Bank
<b>CSC</b>	Construction Supervision Consultant
<b>EHS</b>	Environmental Health and Safety
<b>EIA</b>	Environmental Impact Assessment
<b>EIP</b>	Environmental Impact Permits
<b>EMR</b>	Environmental Monitoring Report
<b>EMP</b>	Environmental Management Plan
<b>EMS</b>	Environmental Management System
<b>GRC</b>	Grievance Redress Committee
<b>GRM</b>	Grievance Redress Mechanism
<b>LARP</b>	Land Acquisition and Resettlement Plan
<b>PIU</b>	Project Implementation Unit
<b>RD</b>	Road's Department
<b>SSEMP</b>	Site Specific Environmental Management Plan
<b>TBA</b>	To be advised

# 1 INTRODUCTION

## 1.1 Preamble

1. This report represents the Bi - Annual Environmental Monitoring Review for **Batumi Bypass Road Project** for the period of January – June 2018.
2. This report is the 2<sup>nd</sup> EMR for the Batumi Bypass Road Project.

## 1.2 Headline Information

3. Due to the fact that the Notice to Commence has not yet been given to the Contractor for the full site, no major construction activities like tunnel, bridge or road construction had been carried out for the reporting period. Contractor carried out construction site clearance, demolition of houses, tree/bush cutting, topsoil removal at some sections. Issues identified during the reporting period are minor, as indicated below in the report and shown by the pictures attached to this documents as **Annex 1**.

## 2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

### 2.1 Project Description

4. The 81-km Poti–Batumi–Sarpi Road (“S2” under Georgian Highway Designation) along the western coast of Georgia, located in the Adjara Autonomous Republic, is a key international highway and international transit route in Georgia. It is connected to the important towns Batumi, Poti and Kobuleti. Batumi is a major Black Sea port and a holiday resort; Poti is the largest port of Georgia; and Kobuleti is a holiday resort. Due to heavy traffic on S2, there has been significant increase in congestion and accidents particularly during the tourist season in Batumi and Kobuleti. The Government of Georgia plans to construct two roads around Batumi and Kobuleti to bypass the highway traffic from these towns.
5. The Project road, bypassing the city of Batumi from East, is entirely located in Khelvachauri District. The design alignment goes through the villages of Makhinjauri, Gantiadi, Kapreshumi, Salibauri, Peria, and Makhvilauri. Passing through the above villages, the design alignment crosses complex landscape of multiple ravines, streams, rivers, hills and hillsides. Thirteen kilometer of road, five tunnels, 19 bridges and four interchanges are planned along the Project alignment.
6. The project is classified as category A for the environment under ADB’s Safeguard Policy Statement (2009). Batumi Bypass Road project is being co-financed by the Asian Development Bank (ADB).

Map 1. Project Location Map



## 2.2 Project Contracts and Management

7. A Consultancy Contract was awarded to SMEC International Pty Ltd on September 2017 for three phases of the project:

**Phase 1** – Design review, to be completed in a period of three months. The Design Review Report was completed and submitted to RD on 26 December 2017.

**Phase 2** – Construction supervision and contract administration. The construction period is for 900 days.

**Phase 3** – Defects Notification Period, three years.

8. 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-specific environmental management plan (SSEMP) 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.
9. Contact details of the main organisations involved in the project relating to Environmental Safeguards, including lender, borrower, Main Contractor/s and significant sub-contractors are given in the **Table 1** below.

**Table 1. Main organizations involved in the project implementation**

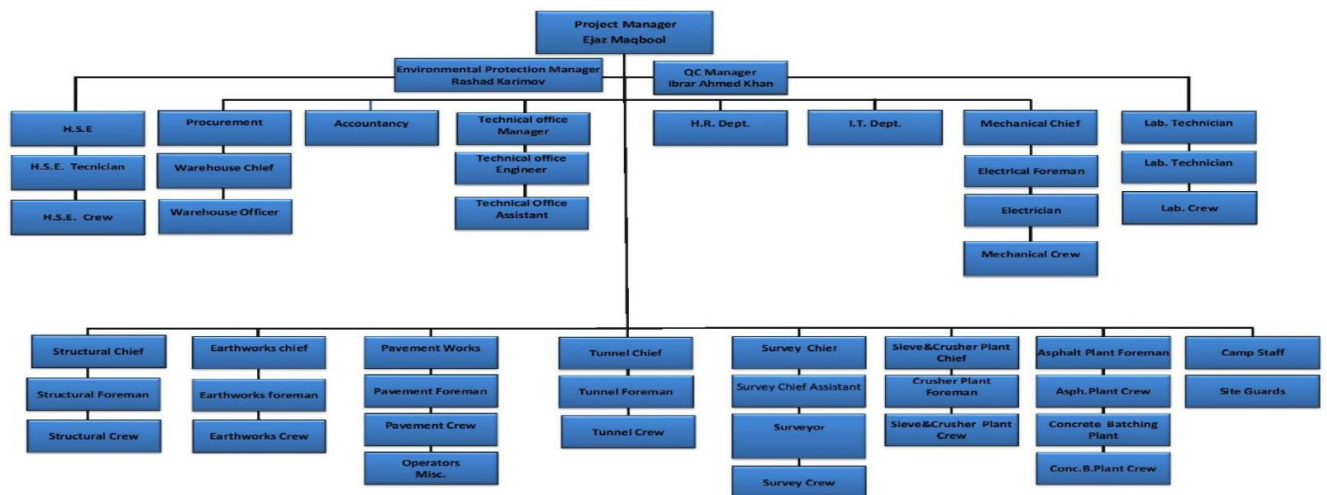
<b>Asian Development Bank</b>	Valerie Lisack Project Officer <a href="mailto:vlisack@adb.org">vlisack@adb.org</a>
<b>Asian Infrastructure Investment Bank</b>	Ghufran Shafi - Senior Investment Operations Specialist  Roberto Salgado – Investment Operations Specialist E-mail: <a href="mailto:Roberto.salgado@aiib.org">Roberto.salgado@aiib.org</a>
<b>Road's Department</b>	Gia Sopadze Head of Environmental Division Tel: (+995) 599 93 92 09 E-mail: <a href="mailto:sopgia@hotmail.com">sopgia@hotmail.com</a>  Luiza Bubashvili Environmental Safeguard Consultant under ADB & EIB Financed Projects Tel: (+995) 595 21 91 41

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<b>PolatYol &amp; Mapa Joint Venture</b>	Rashad Kerimov International Environmental Specialist Tel: (+994) 504 48 18 48, (+995) 591 06 37 51 E-mail: <a href="mailto:Kerimov_rashad@yahoo.com">Kerimov_rashad@yahoo.com</a>  Dimitri Gvantseladze Health, Safety & Traffic Manager Tel: (+995) 595 06 09 30
<b>SMEC International Pty Limited</b>	Syed Muhammad Latif International Environmental Specialist Phone: +7 (701) 7777 137 E-mail: <a href="mailto:Syed.Latif@smec.com">Syed.Latif@smec.com</a>
<b>Uniprofgrufi Ltd.</b>	Tengiz Lagidze Local Environmental Specialist Tel: (+995) 595 93 96 30 E-mail: <a href="mailto:tengizlagidze@upg.ge">tengizlagidze@upg.ge</a>
	Giorgi Shiukashvili Local Environmental Specialist Tel: (+995) 595 10 66 88 E-mail: <a href="mailto:giorgishiukashvili@upg.ge">giorgishiukashvili@upg.ge</a>

10. Under the Contract, the Contractor shall comply with all applicable national, provincial and local environmental laws and regulations as well as applicable respective standards under the Contract. The Contractor shall
- (a) establish an operational system for managing environmental impacts,
  - (b) develop the Environmental Management Plan (EMP) by identifying environmental risks arising from the Works, the mitigation measures to be applied, and monitoring to be carried out,
  - (c) implement the required mitigation measures and monitoring,
  - (d) take any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the EMP, and
  - (e) submit quarterly reports on the carrying out of such measures to the Engineer.
11. PolatYol & Mapa Joint Venture Project Manager, Mr. Ejaz Maqbool has responsibility for all aspects of environment at work undertaken on construction site. He will be responsible for strictly monitoring that PolatYol & Mapa Joint Venture services site management team conforms to all aspects of environment in accordance with PolatYol & Mapa Joint Venture environmental access policy and safety plan.
- Responsibility for daily management for environmental monitoring and implementation of the SSEMP is given to the Environmental Protection Manager Mr. Rashad Karimov. He has direct authority from the Project Manager to give instruction to all site staff regarding environmental issues. The project organization chart for key management staff is provided below in **Table 2**:



**Table 2. Contractor's Project Management Staff**



### 2.3 Project Activities during Current Reporting Period

12. Since the commencement is not fully granted to the Contractor, during this reporting period no active construction activities have been held. Therefore, no major activities have been carried out for this reporting period. The only main construction activities carried out during the reporting period were the (1) construction of the Camp Site and (2) construction of the Plant Yard including concrete batching plant and crashing plant.
13. Up to this date, the Contractor has completed most of the construction activities in the Camp Site, excluding the minor construction works for the dormitories. As for the Batching Plant, the progress can be evaluated as 80% and the Crashing plant as 75%.
14. Additionally, during the reporting period the Contractor has initiated the cutting of the trees and demolishing of buildings.
15. For the current information on Site and some of the identified problems are referred below in this document and fully documented through pictures, which can be found in **Annex 1** of this document.
16. Total amount of Contractor's personnel is 149 people, 31 of whom are foreigners and 118 are local employees.

### 2.4 Description of Any Changes to Project Design

17. During the reporting period, the Contractor has proposed several changes to all Bridges design, which is still under the review as the Contractor has not finalised their design submissions, therefore none of the changes have been made to the Project. Up to the date of this report, the Design remains the same as it was originally provided during the Tender.

### 2.5 Description of Any Changes to Agreed Construction methods

18. During the monitoring process, the Contractor did not make any requests for changing the construction method or any other changes which might have influenced the Environmental Protection Plan.

### 3 ENVIRONMENTAL SAFEGUARD ACTIVITIES

#### 3.1 General Description of Environmental Safeguard Activities

19. Engineer's environmental protection specialists study the actions of the Contractor concerning environmental protection and the Contractor's monthly progress reports. Additionally, they review the information presented in the Monthly Progress Reports and conduct daily monitoring of the construction site.
20. Engineer prepares the Monthly Reports, which are shared with RD, describing the all the construction activities and respective effects if any on the environment.
21. Environmental specialists of the Contractor and the Engineer are conducting mutual weekly site visits (on a need basis) to monitor the situation on Site.

#### 3.2 Site Audits

22. In the first part of 2018 (January - June) the Engineer's specialists Tengiz Lagidze and Giorgi Shiukashvili conducted monitoring of the following construction sites:
  - ▶ Access roads to Bridges and Tunnels (*Picture 15, 16, 34, 35*);
  - ▶ Territory of the construction site, installation of batching plant (*picture 9, 10*); installation of sedimentation traps (*picture 7*), Installation of crushing plant (*picture 8*);
  - ▶ 4<sup>th</sup> interchange, top-soil removal, storing and other works (*picture 19, 22*);
  - ▶ Nearby territory of the 4<sup>th</sup> tunnel (km8+600) (*picture 15, 16, 42*);
  - ▶ Road sections km8+800-km8-900; km10+200~km10+600;
  - ▶ Demolition of buildings km7+250, km1+830;
  - ▶ Transportation and cutting of the trees km7+700, km9+150;
23. The monitoring was not conducted on the borrow pit, which is being used by the Contractor based on the agreement concluded with the owner. The Contractor was required by the Engineer to present the copies of the borrow pit license and geoinformation package. Copies of license will be attached to the next Semi-annual EMR due in January 2019.

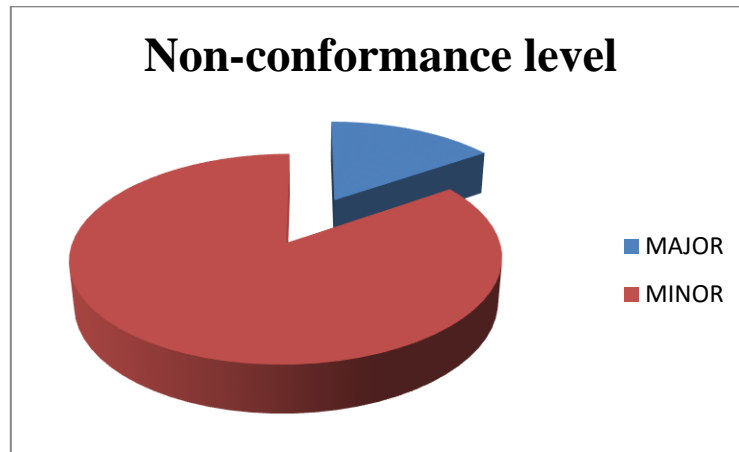
#### 3.3 Issues Tracking (Based on Non-Conformance Notices)

24. Description of issues tracked during the current reporting period is given in the **Table 3** below.

**Table 3. Summary of Issues Tracking Activity for Current Period**

<b>Total Number of Issues for Project</b>	13
<b>Number of Open Issues</b>	11
<b>Number of Closed Issues</b>	2
<b>Percentage Closed</b>	15%
<b>Issues Opened This Reporting Period</b>	13
<b>Issues Closed This Reporting Period</b>	2

**Figure 1. Summary of Issues by Non-Conformance**



25. From mentioned inconsistencies, 11 issues are less important and can be easily resolved. However, 2 of them are important and refer to the removing of debris of demolished buildings and stumps of cut trees. The latter issues have been followed up by the Non-Conformance Notices (NCN) letters of the Engineer with established deadlines for implementation of corrective actions. More details of non-conformances related to waste management are given in the chapter 4.5.

### **3.4 Trends**

26. Bi-annual Environmental Monitoring Report of July-December 2017 did not have any precise/specific information, the environment was not described and no violations and mitigation actions were evident, due to the fact that the Contractor did not have ongoing construction works. Therefore, it is impossible to identify any trends at this stage.

### **3.5 Unanticipated Environmental Impacts or Risks**

27. In the first part of 2018, no unanticipated environmental impacts or risks were evident.

## 4 RESULTS OF ENVIRONMENTAL MONITORING

### 4.1 Overview of Monitoring Conducted during Current Period

28. During the period of 21.03.18 - 24.03.18 an independent laboratory Batumis Tskali Ltd. has conducted a chemical-bacteriologic analysis on the sample of water taken from the water-well of Contractor's office-living campsite. The Georgian version of results can be found in **Annex 3**. The result of water quality tests are acceptable considering Georgian Maximum Permissible Concentrations (see **Table 4**).

**Table 4. Chemical-bacteriologic analysis on the sample of water**

#	Examination indicator	Unit of measurement	Normative no more (MAN)	Result obtained	Test method
Organoleptic indicators					
1	Water temperature (on the place)	Celsius		14	
2	Smell, taste, 20-60 degree	points	2	0	GOST 3351074
3	Coloration	degree	15	0	HACH method 8025
4	Turbidity (kaolin)	mg/l	2.0	0.28	ISO7027:1999
5	Hydrogen indicator (PH)		6-9	7.71	ISO10523:2008
6	Permanganate oxidation	mg/l	3-10	0.16	ISO8467:2007
Inorganic indicators					
7	Ammonium	mg/l		0.018	HACH LCK 304
8	Nitrates (Short term impact with NO <sub>2</sub> )	mg/l	5.0	4.43	HACH LCK 339
9	Nitrates (Long lasting term impact with NO <sub>2</sub> )	mg/l	0.2	0.009	HACH LCK 341
10	Chlorides Cl	mg/l	25.0	4.84	GOST 4245-72
11	Hardness	Mg.eqv/l	7-10	4.0	GOST 4151-72
12	Cooper	mg/l	2.0	0.020	HACH LCK 529
13	Iron (total)	mg/l	0.3	0.113	HACH LCW 021
14	Sulphates	mg/l	250	18	HACH 8051

Microbiological indicators					
15	Mesophilic aerobes and facultative anaerobes	In 1ml 37 Celsius	20	4	EPA 9215
16	Mesophilic aerobes and facultative anaerobes	In 1ml 22 Celsius	100	2	EPA 9215
17	Common colloidal bacteria	Number of bacteria in 300ml	Not allowed	<1	SST ISO9308-2:2012/2013
18	E.coli	In 300ml	Not allowed	<1	SST ISO9308-2:2012/2013
19	Streptococcus faecalis	In 250ml	Not allowed	<1	SST ISO9308-2:2012/2013

29. Due to the fact, that the Contractor does not own an appropriate devices, the Contractor has not yet conducted the measurements of the level of noise and vibration. The contractor has on-going negotiations with independent laboratory for noise and vibration measurements. The results of measurement will be reflected in the next Semi-annual EMR due in January 2019.
30. On 4 July 2018, the certified laboratory has measured the parameters of atmospheric air on the territory of office-living campsite, results of which can be found in **Annex 2** in Georgian. The result of air quality tests are acceptable considering Georgian Standards for Ambient Air Quality and do not exceed the national norms for atmospheric pollution as well as IFC/WB standards (see **Table 5**).

**Table 5. Parameters of atmospheric air on the territory of office-living campsite**

#	Name of substance	Measurement area/Measurement time	Measurement result (mg/m <sup>3</sup> ) maximal single	Georgian Standards	IFC Guideline Value (Limit (mg/m <sup>3</sup> ))	Name of method
	1	2	3	4	5	6
1	Nitrogen dioxide (NO <sub>2</sub> )	Adjacent territory of the Company address (in the yard 14:15)	0.1	0.85	0.2 / 1 Hour 0.04 / 1 Year	Tech.Reg.N4 35-13
2	Hydrogen Sulfide (H <sub>2</sub> S)	Adjacent territory of the Company address (in the yard 14:15)	Did not turn out	0.008	N/A	Tech.Reg.N4 35-13

3	Sulfure dioxide (SO <sub>2</sub> )	Adjacent territory of the Company address (in the yard 14:15)	Did not turn out	0.5	0.5 / 10 min	Tech.Reg.N4 35-13
4	Carbon Oxide CO	Adjacent territory of the Company address (in the yard 14:15)	Did not turn out	5.0	N/A	Tech.Reg.N4 35-13
5	Dust (solid particles)	Adjacent territory of the Company address (in the yard 14:20)	0.20	0.3	(*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM <sub>2.5</sub> and PM <sub>10</sub> ). PM <sub>10</sub> – 0.02/1 Year 0.05/24 Hour PM <sub>2,5</sub> - 0.01/1 Year 0.025/24 Hour	GOST P ISO9096-06
6	Hydrocarbons (C <sub>n</sub> H <sub>m</sub> )	Adjacent territory of the Company address (in the yard 14:15)	0.01	–	N/A	Tech.Reg.N4 35-13

## 4.2 Trends

31. Bi-annual Environmental Monitoring Report of July-December 2017 did not have any precise/specific information, the environment was not described and no violations and mitigative actions were evident, since the Contractor did not have ongoing construction works. Therefore, it is impossible to identify any trends.

## 4.3 Summary of Monitoring Outcomes

32. To monitor and control the parameters for air quality, level of noise and vibration, the Contractor must own an appropriate equipment for measuring the quality of the air, level of noise and vibration on the construction campsites. In the future, in case the Contractor arranges the borrow pits, additional monitoring will be conducted on the excavation and transportation. Furthermore, additional monitoring will be conducted on every newly started construction works by the Contractor.

#### 4.4 Material Resources Utilisation

33. The Contractor is instructed to remove and utilize the metal scraps. As for the trees, which were cut within the project, the Engineer is trying to resolve the issue and deliver it to the local governing bodies.

##### 4.4.1 Current Period

34. At this stage, the Engineer has no information about the utilization of electricity, water and other materials. This information will be provided in the next Semi-annual EMR as for July-December 2018 reporting period.

#### 4.5 Waste Management

35. The Contractor has arranged the detailed plan for Waste Management. The contractor has concluded an agreement with Batumis Tskali Ltd concerning hazardous residual water and sewage water, and concluded an agreement with Sandasuftaveba Ltd for household waste disposal.

36. Despite these actions, number of violations/non-conformances were detected during the reporting period:

- ▶ Several times overfilled garbage containers were detected on the office-living campsite (*picture 3, 6*);
- ▶ Overfilled garbage container was detected on the Contractor's Construction Site (*picture 12*);
- ▶ On the territory of office-living campsite, there are two asbestos pipes, which are considered as the hazardous waste (*picture 2, 4*);
- ▶ There are empty cement bags on the construction site (*picture 11*);
- ▶ There are remnants of gypsum board on the construction site (*picture 5*);
- ▶ The little amount of metal scraps are detected on the construction site (*picture 14*);
- ▶ There are used tyres on the section km12+800 of the construction site (*picture 20, 21*);
- ▶ There are stumps of the cut trees on the section Km 12+800 of the construction (*picture 18*).

Currently, debris of demolished buildings and stumps of cut trees, located on the territory of the 4<sup>th</sup> interchange (km 12+800), are not removed into the dumpsite (*picture 18, 23– 33, 36*). The Contractor has not yet concluded the agreement with the local municipality about assigning the territory for the dumpsite. The Engineer demanded from the Contractor to conclude above mentioned agreement in a written form and to present it for review.

Besides, according to the requirements of Code of Georgia on Waste Management, the Engineer has instructed the Contractor to develop the Waste Management Plan in agreement with the Ministry of Environment and Natural Resources Protection of Georgia in case the weight of the waste cumulated during a year is more than 200 tons of nonhazardous waste, 1000 tons of inert waste or any other amount of hazardous waste.

#### 4.5.1 Current Period

37. For the given reporting period, there no information presented that reflects the details of specific types of the waste, their weight and exact sources of utilization. For the future, the Contractor will be instructed to classify the waste and thus, the results will be reflected in the next bi-annual report.

#### 4.6 Health and Safety

38. The Contractor has appointed an accident prevention officer Mr. Dimitri Gvantseladze at the Site, who is responsible for maintaining safety and protection against accidents. He is available on site every day.

##### 4.6.1 Community Health and Safety

39. During this reporting period no car accident or any major accidents had been recorded. The only accident that happened was as follows:

- ▶ In May 2018, on section km 12+780 while cutting trees the potable water pipe was damaged. The engineer was informed about it from the Contractor's letter and the pipe was repaired.

##### 4.6.2 Worker Safety and Health

40. Analysis of the accidents that happened during the reporting period are as follows:

	Date	Accident	Current status
1	July 2018	Contractor's personnel was bitten by an unknown insect	There were no complications
2			

#### 4.7 Trainings

41. In the Contractor's Monthly Reports, it is highlighted that employees are being instructed about health, safety and fire protection issues every week since June 2018.

Later on, there will also be trainings about Environmental protection issues for the Engineer's employees to be conducted by RD/PIU environmental specialists and RETA/ADB International-Regional Environmental Consultant – Ketil Dgebuadze in September 2018.



## 5 FUNCTIONING OF THE SSEMP

### 5.1 SSEMP Review

42. SSEMP was prepared by the Contractor and submitted to the Engineer on 30 May 2018 by letter GEO/BB/103-18 is prepared in a good manner and includes all aspects of project construction and construction sites. In particular,

- ▶ Soil Management Plan;
- ▶ Water Management Plan;
- ▶ Dust Management Plan;
- ▶ Noise & Vibration Management Plan;
- ▶ Waste Management Plan;
- ▶ Spoil Management Plan;
- ▶ Spill Prevention Management Plan;
- ▶ Borrow Pit Management Plan;
- ▶ Flora and Fauna Management Plan;
- ▶ Cultural and Archaeological Management Plan; and
- ▶ Grievance Redress Mechanism.

43. During the reporting period, the following non-conformances have been identified (see **Table 6**):

**Table 6. Identified non-conformances**

Affected Objects	Raised Issues	Mitigation Events	State of the action
Office-living campsite	2 asbestos pipes	Pipes must be wrapped in an appropriate manner and transported into the landfills	Is not fulfilled
Office-living campsite	Trash containers are overfilled periodically	Trash containers must be cleaned regularly	Is not fulfilled
Construction Campsite	There are empty cement bags on the ground	Must be transported into the landfills	Is not fulfilled
Construction Campsite	Remnants of gypsum board	Must be transported into the landfills	Is not fulfilled
Construction Campsite	Little amount of metal scraps are detected	Must be removed to the scrap shop	Is not fulfilled
Construction Campsite	Trash container is overfilled	Must be cleaned regularly	Is not fulfilled

<b>4<sup>th</sup> Interchange (KM12+800)</b>	There are used tyres at the territory	Must be transported into dumpsite or to the utilization center	Is not fulfilled
<b>4<sup>th</sup> Interchange (KM12+800)</b>	There are stumps of cut tree on the territory	Must be transported into the stockpile	Is not fulfilled
<b>Nearby territory of the section KM8+600</b>	On the nearby territory of the road there are parts of cut trees (benches) on the ground	Must be transported into the stockpile	Is not fulfilled
<b>Project Road</b>	Debris of the demolished building	Must be transported into the stockpile	Is not fulfilled
<b>Project Road</b>	There are no warning and information signs	Warning signs must be installed at every construction site access road	Is not fulfilled
<b>Project Road</b>	Cut trees are not stored	Must be stored	Is fulfilled
<b>Project Road</b>	Removed top-soil (at 4 <sup>th</sup> Interchange) is not stored	Must be stored	Is fulfilled
	Lack of monitoring equipment	Contractor have to purchase Air quality, Noise and Vibration monitoring equipment	Is not fulfilled

44. The Contractor was informed about the remaining environmental problems and the action plan was worked out to implement the corrective actions for mitigation of non-conformances as outlined below in **Table 7**.

**Table 7. Terms for implementing the corrective actions for remaining non-conformances**

<b>Affected Objects</b>	<b>Raised Issues</b>	<b>Mitigation Events</b>	<b>Estimated term of fulfilling works</b>	<b>State of the action</b>
<b>Office-living campsite</b>	2 asbestos pipes	Pipes must be wrapped in an appropriate manner and transported into the landfills.	August 2018	Is not fulfilled
<b>Office-living campsite</b>	Trash containers are overfilled periodically	Trash containers must be cleaned regularly	August 2018	Is not fulfilled
<b>Construction Campsite</b>	There are empty cement bags on the ground	Must be transported into the landfills	August 2018	Is not fulfilled
<b>Construction Campsite</b>	Remnants of gypsum board	Must be transported into the landfills	August 2018	Is not fulfilled
<b>Construction Campsite</b>	Little amount of metal scraps are detected	Must be removed to the scrap shop	August 2018	Is not fulfilled
<b>Construction Campsite</b>	Trash container is overfilled	Must be cleaned regularly	August 2018	Is not fulfilled
<b>4<sup>th</sup> Interchange (KM12+800)</b>	There are used tyres at the territory	Must be transported into dumpsite or to the utilization center	August 2018	Is not fulfilled

<b>4<sup>th</sup> Interchange (KM12+800)</b>	There are stumps of cut tree on the territory	Must be transported into the stockpile	August 2018	Is not fulfilled
<b>Nearby territory of the section KM8+600</b>	On the nearby territory of the road there are parts of cut trees (benches) on the ground	Must be transported into the stockpile	August 2018	Is not fulfilled
<b>Project Road</b>	Debris of the demolished building	Must be transported into the stockpile	August 2018	Is not fulfilled
<b>Project Road</b>	There are no warning and information signs	Warning signs must be installed at every construction site access road	August 2018	Is not fulfilled

45. At this stage, presented mitigation measures are effective and there is no need for corrections or alternatives. Given activities provide reduction of risk and influence on the environment.
46. There are no changes needed in the mitigation measures of the Environmental Protection Plan.

## **6 GOOD PRACTICE**

### **6.1 Good Practice**

Not yet applicable.

## **7 SUMMARY AND RECOMMENDATIONS**

### **7.1 Summary**

47. It should be highlighted that the work carried out by the Contractor for Environmental Protection was assessed positively by the Engineer. The actions of the Contractor didn't have any negative effect on biodiversity and no poaching actions were evident. Additionally, no facts of law violation has been detected by the local Environmental Supervision Department.
48. For the given period, as a progress it may be noted that the Contractor ensured the following:
- ▶ Developed the Environmental Protection Plan for specific Sites and presented it to the engineer;
  - ▶ Timely delivery of Monthly Monitoring Reports to the Engineer;
  - ▶ Developing and timely delivery of the Health Safety Management Plan to the Engineer;
  - ▶ Concluding the Agreement on removing of household waste;
  - ▶ Concluding the Agreement on delivery/installation of the Fire inventory;
  - ▶ Provision of Bio Toilets for the Construction Sites (*picture 13*);
  - ▶ Provision of safety equipment for the working personnel;
  - ▶ Top-soil removal and storing (*picture 19, 22*);

### **7.2 Recommendations**

49. Contractor should purchase the equipment for measuring the level of noise and vibration and to check the atmospheric air quality.
50. On the office-living campsite, there is a medical station however, there is no doctor presented. Therefore, the Contractor shall ensure the provision of doctor.

## **8 ANNEXES**

### **Annex 1. Pictures**

**Picture 1**



**Picture 2**



**Picture 3**



**Picture 4**



**Picture 5**



**Picture 6**





**Picture 7**



**Picture 8**



**Picture 9**



**Picture 10**



**Picture 11**



**Picture 12**



**Picture 13**



**Picture 14**



**Picture 15**



**Picture 16**



**Picture 17**



**Picture 18**



**Picture 19**



**Picture 20**



**Picture 21**



**Picture 22**



**Picture 23**



**Picture 24**



**Picture 25**



**Picture 26**



**Picture 27**



**Picture 28**



**Picture 29**



**Picture 30**



**Picture 31**



**Picture 32**



**Picture 33**



**Picture 34**



**Picture 35**



**Picture 36**



**Picture 37**



**Picture 38**



**Picture 39**



**Picture 40**



**Picture 41**



**Picture 42**



## Annex 2. Laboratory test for air

<p>საქართველო, აჭარის ავტონომიური რეგიონის სოფლის მეურნეობის სამინისტრო, სსიპ სამხრატორიული კვლევითი ცენტრი ქ.ბათუმი 6010-ქვედა საბჭო ტელ: + 995 (04 22) 25 13 68 ელ.ფოსტა: samebalaba@gmail.com</p>		<p>GEORGIA MINISTRY OF AGRICULTURE OF THE AUTONOMOUS REPUBLIC OF AJARA, LEPL LABORATORY RESEARCH CENTRE KVEDA SAMEBA, 6010 BATUMI GEORGIA TEL: + 995 (04 22) 25 13 68 E-MAIL: samebalaba@gmail.com</p>		
<p>აკრედიტაციის მოწმობა /ACREDITATION CERTIFICATE - GAC-TL-0168 (20.11.17 - 20.11.21)</p>				
<p>The Protocol of the Research N:3537</p>				
<p>Sample Identification Code - 64-E8-1-02-18</p>	<p>05.07.2018</p>			
<p>Customer - Branch of foreign enterprise „JSC Polat Yol Yapı Sanayi Ve Ticaret“ in Georgia.</p>				
<p>The Subject of the research, address - Opiza street N:97, Khelvachauri.</p>				
<p>Date, time of sample entry in the laboratory - 04.07.18: 15:40</p>				
<p>Purpose of the Research - Measurements of dust (solid particles), nitrogen dioxide, hydrogen sulfide, sulfur dioxide, hydrocarbons group, carbon oxide and relative humidity in atmospheric air.</p>				
<p>Measurements Result</p>				
<p>N</p>	<p>Name of substance</p>	<p>Measurement area, measurement time</p>	<p>Measurement result (mg/m<sup>3</sup>) maximally single</p>	<p>Name of the Method</p>
<p>1</p>	<p>Nitrogen dioxide (NO<sub>2</sub>)</p>	<p>Adjacent territory of the company address (in the yard) 14:15</p>	<p>0.1</p>	<p>Tech. Reg. N:435-13</p>
<p>2</p>	<p>Hydrogen sulfide (H<sub>2</sub>S)</p>	<p>Adjacent territory of the company address (in the yard) 14:15</p>	<p>Did not turn out</p>	<p>Tech. Reg. N:435-13</p>
<p>3</p>	<p>sulfur dioxide (SO<sub>2</sub>)</p>	<p>Adjacent territory of the company address (in the yard) 14:15</p>	<p>Did not turn out</p>	<p>Tech. Reg. N:435-13</p>
<p>4</p>	<p>Carbon oxied (CO)</p>	<p>Adjacent territory of the company address (in the yard) 14:15</p>	<p>Did not turn out</p>	<p>Tech. Reg. N:435-13</p>
<p>5</p>	<p>dust (solid particles)</p>	<p>Adjacent territory of the company address (in the yard) 14:20</p>	<p>0.20</p>	<p>ГОСТ Р ISO 9096-06</p>
<p>6</p>	<p>hydrocarbons (CnHm)</p>	<p>Adjacent territory of the company address (in the yard) 14:15</p>	<p>0.01</p>	<p>Tech. Reg. N:435-13</p>
<p>The result spreads only on the presented sample</p>				
<p>Responsible performer:</p>			<p>J. Tsetskhaladze</p>	
<p>Head of the Testing Laboratory:</p>			<p>E. Antonishvili</p>	

### Annex 3. Laboratory test for water

ბათუმი წყალი

შპს "ბათუმის წყალი"  
 ქ. ბათუმი, თაბუკაშვილის ქ. # 19  
 ტელ. (0422) 24 22 22  
 ელ-ფოსტა: info@bats.gp  
 www.bats.gp

## ქიმიურ-ბაქტერიოლოგიური ლაბორატორია

F.01

გამოცდის ოქმი № 96

(ოქმის გაცემის თარიღი) – 30.03.2018-

სსტ ისო/იე 17025:2010  
GAC-TL-0129

ნიმუშის დასახელება და რაოდენობა: ---- კაბურღილის წყალი, 2 ლ.  
 ნიმუშის საიდენტიფიკაციო კოდი: ----- 163-13R4 -02-03  
 ნიმუშის აღების ადგილი, თარიღი და დრო: --- სს „ფოლათ იოლ იაფი ხანაი ვე თიჯარეთი“-ის ფილიალი საქართველოში ხელფაჩაური, ოპიზრების ქ.№91 21.03.2018 13<sup>45</sup>  
 დამკვეთის სახელი გვარი და იურიდიული მისამართი -უთაქუ თოსუნ, ოპიზრების ქ. №91  
 ნიმუშის ამღები პირი: --- მ. ხახუტაიშვილი  
 ანალიზის დაწყებისა და დამთავრების დრო: ---- 21.03.2018-24.03.2018

№	გამოსაცდელი მაჩვენებლები	საზომი ერთეული	ნორმატივი არა უმეტეს	მიღებული შედეგი	გამოცდის მეთოდი
<b>ორგანოლექტიური მაჩვენებლები</b>					
1	წყლის ტემპერატურა (აღვიღზე)	°C	-	14	-
2	სუბი . გვმი 20°C, 60°C	ზალი	2	0	გოსტი 3351-74
3	ფერიაწიბა	გრაფული	15	0	HACH Method 8025
4	სიმღვრივე (კალონი)	მგ/ლ	2 0	0 28	ISO 7027:1999
5	წყალმადის მაჩვენებელი PH	-	6-9	7 71	ISO 10523:2008
6	პერმანენტიული ვანცადიბა	მგ/ლ	3 0	0 16	ISO 8467:2007
<b>არაორგანული მაჩვენებლები</b>					
7	ამონიუბი	მგ/ლ	-	0 018	HACH LCK 304
8	ნიტრატიბი (NO <sub>3</sub> <sup>-</sup> -ით ხანმოკლე ზომიშედებიბი)	მგ/ლ	50	4 43	HACH BCK 339
9	ნიტრატიბი (NO <sub>2</sub> <sup>-</sup> -ით ხანგრძლივი ზომიშედებიბი)	მგ/ლ	0 2	0 009	HACH LCK 341
10	ქლორიდები (Cl <sup>-</sup> )	მგ/ლ	250	4 84	გოსტი 4245-72
11	სიხისბე	მგ ეპ/ლ	7-10	4 0	გოსტი 4151-72
12	საილები	მგ/ლ	2 0	0 020	HACH LCK 529
13	რეინა (კაბმური)	მგ/ლ	0 3	0 113	HACH LCW 021
14	ჟულფატები	მგ/ლ	250	18	HACH Method 8051
<b>მიკრობიოლოგიური მაჩვენებლები</b>					
15	მეზოფილური ბაქტერიები და ფაკულტატიური ამბრობიბი	მეგ 1 მლ-ში 37°C	20	4	EPA 9215
16	მეზოფილური ბაქტერიები და ფაკულტატიური ამბრობიბი	მეგ 1 მლ-ში 22°C	100	2	EPA 9215
17	საერთო კოლიფორმული ბაქტერიები	ბაქტერიების რაოდენობა 300 მლ-ში	არ დაიშეება	<1	სსტ ისო 9308-2:2012/2013
18	E.coli	300 მლ-ში	არ დაიშეება	1	სსტ ისო 9308-2:2012/2013
19	Streptococcus faecalis	250 მლ-ში	არ დაიშეება	-	ASTM D 6503 99

შპს "ბათუმის წყალი"-ს გენერალური დირექტორი:

ლაბორატორიის უფროსი:

1-1



