

# Environmental Monitoring Report

---

#1 Semestral Report  
July 2015

## GEO: Sustainable Urban Transport Investment Program – Tranche 2

Prepared by the Municipal Development Fund of Georgia for the Government of Georgia and the Asian Development Bank.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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

# Biannual Environmental Monitoring Report

---

Loan Number: 2879-GEO  
2880-GEO (SF)

Reporting period: **January – June, 2015**

## **GEORGIA: GEORGIAN SUSTAINABLE URBAN TRANSPORT INVESTMENT PROGRAM, Tranche 2**

**(Financed by the Asian Development Bank)**

Prepared by: Nino Nadashvili, Environmental Safeguards Specialist  
Environmental and Social Safeguards Unit, Municipal Development Fund (MDF)  
Tbilisi, Georgia

Endorsed by: Davit Tabidze, Head of Environmental and Resettlement Unit,  
Municipal Development Fund (MDF)  
Tbilisi, Georgia

July 15, 2015

# Biannual Environmental Monitoring Report

---

## ABBREVIATIONS

ADB	Asian Development Bank
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP	Environmental Management Plan
EPSM	Engineering Procurement and Construction Management
GoG	Government of Georgia
SUTIP	Georgian Sustainable Urban Transport Investment Program
IA	Implementing Agency
IEE	Initial Environmental Examination
MDF	Municipal Development Fund
MFF	Multi-tranche Financing Facility
MoENRP	Ministry of Environmental and Natural Resources Protection
MoRDI	Ministry of Regional Development & Infrastructure
SSEMP	Site-Specific Environmental Management Plan

# Biannual Environmental Monitoring Report

---

## Table of Contents

---

<b>1. PART I. INTRODUCTION.....</b>	<b>4</b>
1.1 Preliminary information.....	4
1.2 Construction activities and project progress during the reporting period.....	5
1.3 Changes in project organization and environmental management team.....	5
1.4 Relationships with contractors, owner, lender, etc.....	6
<b>2. PART II. ENVIRONMENTAL MONITORING .....</b>	<b>8</b>
<b>3. PART III: ENVIRONMENTAL MANAGEMENT .....</b>	<b>10</b>
3.1 The environmental management system, site-specific environmental management plan (SEMP) and work plans .....	10
3.2 Site Inspection and audits.....	13
3.3 Consultation and Complaints.....	17
3.4 Monitoring Data.....	21
3.5 Measurements.....	23
3.6 Photographs.....	24

# Biannual Environmental Monitoring Report

---

## 1. PART I. INTRODUCTION

---

### 1.1 Preliminary information

---

#### **Project background**

Upgrading and improvement of local transport and transport-related infrastructure plays a significant role in the development of Georgia infrastructure. To this effect a number of important activities have been implemented and financed from the budget of Georgia and from other sources. Recently several significant programs, financed through state budget, loans and grants, have been implemented with this regard.

On 24 July, 2012 MFF - Sustainable Urban Transport Investment Program, Tranche 2 Loan and Project agreements were signed between Georgia and Asian Development Bank. MFF-Sustainable Urban Transport Investment Program – Tranche 2 (SUTIP T2) includes: (i) Urban Transport Infrastructure Improvement; (ii) Institutional Capacity Development and (iii) Project Management.

The program will provide efficient, reliable and affordable urban transport infrastructure and services, thereby increasing economic growth potential and competitiveness of urban communities, improving livelihoods of over 1.5 million people (approx. 35% of Georgian population). The project also will: (I) improve urban, environment and communities' access to economic opportunities and to public and social services; (II) promote efficient and sustainable urban transportation; and (III) generate income and employment opportunities.

The environment classification for Tranche 2 is Environmental Category B, as the subproject under SUTIP 2 was classified as category B which will not have significant irreversible or permanent negative environmental impacts during or after construction and required preparation of Initial Environmental Examination (IEE). The environmental categorization of subproject was conducted by using ADB's Safeguard Policy Statement (2009).

#### **Project Area**

Sustainable Urban Transport Investment program (SUTIP), Ttranche 2 includes the following sub project:

- **Modernization of Tbilisi-Rustavi Urban Road Link (sections 1 and 3)**

At present the Tbilisi – Rustavi road section is one of the busiest and over- trafficked arteries of the city as about 17,000 vehicles per day exceeding traffic capacity. To solve the problems above, the modernization of the Tbilisi-Rustavi road section was declared as the priority project by the Government of Georgia with the goal to upgrade it to a Category - I road with 4 to 6 lanes and 120 km/hr of design speed. Executing as well as implementing agency of this project is MDF.

The full length of the design road is 17.1k m (including Section 2, with length of 6, 5 km). Length for Section 1 and 3 is - 10, 6 km.

**Section 1 : Tbilisi-Ponichala section** envisaged in the design starts in Tbilisi in Gulia Street at PK 0+00, goes along the right embankment of the river Mtkvari up to PK 20+00 then joins Vakhtang

# Biannual Environmental Monitoring Report

---

Gorgasali street and ends at PK 40+00. Length of this section is 4.0 km.

**Section 3 : Ponichala-Rustavi section** envisaged in the design starts 56 m before the km 14 of Tbilisi-Red Bridge road i.e. on km 13+944, PK 105+00 accordingly and ends 400 m before the entrance to Rustavi at km 20+550 PK 171+00 accordingly. Design road axis passes on the right shoulder of the existing road. Length of this section is 6.6 km. Design section Ponichala-Rustavi is entirely located in Gardabani district.

## 1.2 Construction activities and project progress during the reporting period

---

Construction Contractor of the project is Sinohydro Corporation Limited (China). Contract with Sinohydro Corporation Limited (China) was signed on March 10, 2014. In order to conduct construction supervision and provide project management and technical assistance to MDF, contract with Dohwa Engineering Co.Ltd was signed on January 20, 2012, on Procurement, Construction Management and Supervision of Tbilisi-Rustavi Section of Tbilisi-Red bridge (Azerbaijan Border) Road -SUTIP/C/QCBS-3.

During the reporting period following work activities have been carried out by the Contractor:

- Installation of box culverts –PK14.89-PK24.07; PK106-PK126.50;
- Installation of bridges and interchanges at section 1 and 3;
- Relocation of water main at section 1;
- Construction of drainage system at section 1;
- Stabilisation of old dumpsite at section 1;
- Milling of asphalt layer from existing road PK105-130;
- Paving of concrete layer at PK105-171.

Physical progress of construction works by the end of June is approximately 65 %.

## 1.3 Changes in project organization and environmental management team

---

The MDF has an overall responsibility for the Projects' implementation. New Executive Director Ilia Darchiashvili was assigned in March, 2015. Management of environmental issues is carried out by the MDF through Environmental and Resettlement Unit, established in October 2014. For that time the number of Environmental and Resettlement team members has been increased from 6 to 9 and currently consists of: Head of Unit, 3 environmental safeguards specialists, one safety specialist, one social safeguards specialist, 2 resettlement specialists and one ADB's individual consultant on resettlement issues, who also the member of Environmental and Resettlement Unit. Until October, Environmental and resettlement safeguards team was consisting of 3 environmental safeguards and 2 resettlement specialists, one of which was the ADB's national consultant on resettlement issues. Environmental and Social Safeguards team had a Team Leader who was an advisor to Executive Director of MDF on environmental and social safeguards issues.

The Environmental and Resettlement Unit of MDF is involved in addressing of environmental and social safeguard issues throughout the entire projects' cycles. Environmental Specialist (Nino Nadashvili) designated to supervise ADB projects, reviews the EIAs, EMPs, and SSEMPs of projects and carries out supervision of the performance based on approved EMPs/SSEMPs, EIAs, and environmental standards in accordance with ADB "Safeguard Policy Statement" (2009) requirements' and acting Georgian Legislation.

# Biannual Environmental Monitoring Report

---

Environmental issues at Supervision Company DOHWA are managed by environmental specialist Paata Chankotadze, who is responsible for:

- Reviewing and approval of environmental documentation, submitted by contractor;
- Monitoring of construction activities, issuing NCNs;
- Relationship with contractor and employer;
- Support of contractor in obtaining of environmental permits and licenses;
- Correspondence with Employer, contractor and local authorities.

Contractor's HSE team consists of HSE manager Mr. Yan Ching Ling and environmental specialist Mr. Lasha Gorgiladze, who was hired in September, 2014. (During June-August, 2014 the Contractor's environmental specialist was Mr. Nikoloz Sopadze).

HSE Manager is responsible for:

- Reviewing of documentation, prepared by environmental specialist;
- To establish a routine system of monitoring;
- To ensure that physical monitoring is undertaken properly;
- To review works schedules;
- To participate in progress meetings;
- Help to identify practical solutions to actual and potential problems;
- Use trends in monitoring data to predict/identify possible future problems;

Under responsibility of Environmental specialist of Construction Company is:

- To prepare SEMP's and other environmental documentation, mentioned in Contract and EIA;
- To provide daily environmental field supervision;
- To notify noncompliance and take relevant actions;
- To keep records: maintain site diary and checklists, complete files;
- Communicate with local community regarding works progress;
- Ensuring of receiving relevant permissions and licenses;

## 1.4 Relationships with contractors, owner, lender, etc

The MDF is the project executing, implementing and disbursing agency. MDF is responsible for general implementation of all safeguards tasks and guarantee that potential adverse environmental impacts arising from the Project's implementation are minimized by applying mitigation measures presented in the environmental impact assessment ("EIA") or Initial Environmental Examination (IEE), as applicable.

According to contract's safeguards issues, Construction Contractor should comply with all applicable national environmental laws and regulations, measures and requirements set forth in the IEE and EMP/ SEMP's. For managing environmental impacts, carrying out all of the monitoring and mitigation measures set for IEE and EMP/SEMP's documents Contractor should establish an effective operational system and submit adequate reports to the Supervision Company (DOHWA) on the carrying out of such measures. Construction Supervision Company is responsible for supervision of all environmental issues during project implementation. The number of tasks, to be implemented by Supervision Company Dowha, includes:



# Biannual Environmental Monitoring Report

---

- (i) To supervise and monitor construction of the road;
- (ii) To monitor the project performance, benefits and ensure compliance with all social and environmental requirements;
- (iii) To ensure that the construction contractor prepares the detailed site specific Environmental Management Plans;
- (iv) To ensure that environmental requirements, road safety and monitoring are carried out in accordance with the recommendations of studies, plans, and analysis of the project, and in compliance with ADB safeguards policy and applicable laws of Georgia;
- (v) To provide advices and a combination of on-the job and classroom training to improve MDF, Road Department and Tbilisi City's management capacity;
- (vi) To ensure that the contractor prepares the site specific Environmental Management Plans (SEMPs) according to the framework EMP provided in the project EIA.
- (vii) To ensure that the EMP/SSEMPs are being implemented in the field at the construction site.

Construction Contractor, through its environmental specialist prepares monthly status reports on the EMP/SSEMPs implementation. Such reports must include information on the main types of activities carried out within the reporting period, status of any clearances'/permits/licenses which are required for carrying out such activities, mitigation measures applied and any environmental issues emerged in relations with suppliers, local authorities, affected communities etc. Contractor's monthly status reports are submitted to the technical supervisor and MDF. However, Contractor's monthly reports are very poor quality and submitted with significant delays.

Technical supervisor prepares monthly reports on the status of EMP/SSEMPs implementation and environmental performance of the Contractor. These reports should be based on the contractor's reports and carry analysis of their contents. Technical supervisor must assess how accurate is the factual information provided in the contractor's reports, fill any gaps identified in them, and evaluate adequacy of mitigation measures applied by contractor. Technical supervisor must highlight any cases of incompliance with EMP/SSEMPs, inform on any acute issues brought up by contractor or revealed by supervisor himself, and propose corrective actions. However, Progress reports of implemented activities, are presented by Supervision Company Dohwa with significant delays, are not corresponding above mentioned requirements so far. Information provided at reports is general and not systematized. Reports do not include details on supervision activities and not summarize the results of weekly and/or monthly monitoring. During reporting period five progress reports were submitted by Supervision Company. For January 1 - January 31 - on February 20, 2015, for February 1- February 28 - on March 20, 2015; For March 1 - March 31 - on May 13, 2015; For April 1 - April 30 - on June 04, 2015; For May 1 -May 31 -on July 03, 2015

During implementation of construction activities Engineer's and Contractor's environmental representatives conduct environmental meetings and site inspections on daily basis. In case of observation of significant non compliances Engineer fills non-conformity report forms and sends them officially to Contractor. Most important issues, which cannot be managed by HSE department, are subject of review during weekly meetings. In case of emergency, contractor officially asks support of Employer and Employer in the range of its competence refers to relevant ministries and local authorities.

Environmental issues arising from the construction activities are immediately brought to the attention of the construction Supervision Company Dowha and through them to MDF's environmental safeguards team in order to coordinate efforts and ensure immediate mitigation of impacts, protect the environment and safeguard the health and welfare of the local communities.

MDF ensures availability of all environmental information and facilitates environmental supervision

# Biannual Environmental Monitoring Report

---

of the projects. The MDF through its environmental specialist reports to the ADB every 6 months on the status of environmental compliance of construction works by EMRs.

## 2. PART II. ENVIRONMENTAL MONITORING

---

With reference to MFF 2655-GEO: Sustainable Urban Transport Investment Program – Tranche 2 (SUTIP T2) Environmental Assessment and Review Framework (EARF)<sup>1</sup> is stated that an EMP will be a part of the overall project monitoring and supervision and will be implemented by the Contractor with oversight from the Supervision Consultant (the Engineer) and MDF.

EMP is an integral part of construction contracts. MDF requires the Construction and its Supervision Company to implement construction activities in accordance with the environmental management plans (EMP/SSEMPs).

Monitoring measures include construction site supervision, verification of permits, monitoring of compliance of the contractor performance and specific monitoring of environmental impacts like noise, dust, soil and water pollution and air emissions etc.

Based on the requirements' of EMP/SSEMPs, during implemented construction activities following environmental issues were monitored and managed by Supervising Company and Construction Company: disposal of top soil and subsoil, installation of culverts, noise and air pollution and etc.

- **Top soil storage**

Top soil, removed from the RoW of section 3 was transported to the private land plot, based on verbal agreement with land owner. The contractor was instructed to sign written agreement with land owner. Milled asphalt, removed from existing road was stored directly on top soil outside the construction corridor. According to the Engineer's instruction milled asphalt has been removed and stored according to SSEMP.

- **Subsoil Disposal**

For section 3 the Contractor has signed agreement with owner of private land plot and was disposing spoil on abovementioned land plot. In September 2014 Tbilisi City Hall has given permission to the Contractor for disposing of excavated material at PK 20 of section 1. Since October 2014 the Contractor disposes excavated subsoil in compliance with SSEMP and Georgian legislation.

- **Borrow Pits**

Contractor has provided licenses No1002016, No1002015 and No1001909 for 3 borrow pits. Treatment plans, requested by Georgian legislation have been submitted to the Engineer. The Contractor was instructed to prepare borrow pits treatment plans (BPTPs) in SSEMP format for each borrow pit.

- **Noise**

Noise level during implementation of construction activities was in compliance with norms. During reporting period contractor has checked noise level 3 times at areas, close to settlement (see Annex 3.5. Measurements). According to data received in March-May 2015, the obtained results did not

---

<sup>1</sup> EARF was updated in April, 2015

# Biannual Environmental Monitoring Report

---

exceed the National Environmental Standard of Maximum Permissible Level of Noise during construction activities.

- **Air pollution**

Concentration of Particular Matters (PM) in ambient air during implementation of construction activities was in compliance with norms. During reporting period contractor 3 times has checked concentration of PM at areas, close to settlement (see annex 3.5. Measurements). According to data received in March-May 2015, the obtained results did not exceed the National Environmental Standard of Maximum Permissible Level of dust during construction activities.

- **Emission and Dust**

During transportation of subsoil the Contractor uses open body tracks. Contractor was instructed to cover all tracks during transportation of loose materials. In June 2015 the Contractor has installed covers for all trucks.

For both batching plants, garage and beam plant the Contractor has prepared *“Inventory of Emissions of Hazardous Materials in to Ambient Air”* and agreed calculated emissions with the Ministry of Environmental and Natural Resources Protection of Georgia (MoENRP).

- **Impact on Flora and Fauna**

No illegal damage of Red data list species was recorded during reporting period. Compensation Plan (requirement of conditions of permit for cutting of red data list trees) has been prepared by the Contractor and submitted to MoENRP in December, 2014. Compensation plans for ordinary trees will be prepared after changing of technical specifications, which is under the consideration.

- **Grass Seeding**

N/A at the moment. Seeding of grass will be carried out immediately after covering of slopes of embankment by topsoil.

- **Planting the Trees**

N/A at the moment. Planting of trees are planned after approval of compensation plans for red data list and ordinary trees.

- **Asphalt Plant**

Asphalt plant will be installed on the territory of construction camp in July 2015. Environmental permit has been received from MoENRP. Due to disposal of settlement closer than 500 m from asphalt plant the Contractor was instructed to measure concentration of PM around asphalt plant and settlement area three times per month.

- **Waste Management**

Contractor has agreements (signed contracts) with companies, responsible for managing of hazardous and non-hazardous waste. Non-hazardous waste is collected on the territory of construction camp in the special 1.5m<sup>3</sup> covered containers and transporting to the municipal landfill twice per week. Hazardous waste is collected in the containers which are disposed in covered building. Most of hazardous waste is reused (used oil is using for oiling of forms for beams, used electrical accumulators are sending to supplier).

# Biannual Environmental Monitoring Report

---

Detailed information regarding Contractors and dates and numbers of contracts is provided below:

For **Domestic waste** – LTD „Kenari”, Contract number: N GEO-TR-QT-12 01.07.2014;

For **Hazardous waste** - Jsc, „Sarini”, Contract number: N GEO-TR-QT-25 13.11.2014. „Sarini” has the environmental permit on waste management and hazardous waste storage issued by the MOE;

For **Sewage (waste)** - "Davit Gozalishvili" Individual Entrepreneur, Contract number: N GEO-TR-QT-24 20.10.2014. „Davit Gozalishvili” has the permit on taking sewage by regional sewerage system.

- **Archaeology**

No archaeological findings have been observed during the reporting period.

- **Incidents, Accidents & Near Misses**

No incidents have been recorded during the reporting period.

- **Trainings**

Training on environmental safeguards was conducted in March, 2015 under the RETA 8663. The training on Grievance Redress Mechanism was conducted on July 7, 2015 under the RETA 8663 and 7433.

- **Soil and Water Contamination (pollution prevention)**

The Contractor has not installed secondary containment containers under oil barrels, diesel generators and containers with concrete additives.

Contractor number of times was strictly required from MDF and Supervisor Company's sides to install secondary containment containers under all devices, containing hazardous materials and liquids. Supervisor Company "Dowha" has sent an official warning letter dated by June 23, 2015 notifying contractor on deduction of GEL 74, 400 from next IPC in case if pollution prevention issues would not be improved within 7 days. In particular:

- Construction of waterproof building for proper storage of oil and concrete additives- 40.000GEL;
- Construction of secondary containment container for fuel station- 12.000GEL;
- Covering of trucks- 16,00X14=22,400 GEL.

Contractor promised to improve the situation till mid July.

## 3. PART III: ENVIRONMENTAL MANAGEMENT

---

### 3.1 The environmental management system, site-specific environmental management plan (SEMP) and work plans

---

IEEs, including EMPs, are integral parts of the contracts and their implementation is mandatory for contractors. Environmental Management Plan (EMP) has been designed to avoid, reduce, or at least minimize the adverse environmental impacts that could result from the activities during the implementation and operation of the project.

# Biannual Environmental Monitoring Report

MDF pays sizeable attention to Dohwa to strengthen its activities as Supervisor Company. Weekly/monthly meetings were held in regular base with both – top management and its environmental stuff. Number of notifications was sent to Dohwa requiring improvement of its supervision activities for enhancement of project environmental management.

SSEMPs for camp site, as well as for sections 1 and 3 have been prepared by contractor and endorsed by the engineer with conditions (on 28.05.2014). Updates have been implemented and SSEMPs for section 1 and 3 were approved on 15.07.2014 and SSEMP for Camp site on 30.07.2014.

Installation of Asphalt Mixing Plant according to the Georgian law on Environmental Impact Permit (EIP) is subject to ecological expertise. Contractor has signed an agreement with environmental consulting company LTD “Eco Consulting Group” (Contract Number: GEO-TR-QT-22 01.07.2014) in order to prepare the documents for obtaining environmental permit. Contractor prepared all required documentation and got environmental permit from the MoENRP for Asphalt Plant.

Tree cutting activities (including red list species at section 1) envisaged by EIA have been completed. With great efforts of MDF environmental team, documents of Inventory of trees were prepared by the contractor before starting tree cutting activities.

Compensation package for restoration of cut Red List trees at section 1 was prepared and submitted to MoENRP for approval in December, 2014. Responsive letter from the MoENRP was issued on May 13, 2015, where MoENRP is requiring that some changes and amendments need to be implemented by the contractor and resubmit the processed document. The main requirement of MoENRP refers to incensement of care and maintenance periods from 3 to 5 year and determine precise dates of tree planting. Preparation of restoration plans for ordinary trees, cut at Section 1 and Section 3, is under the process. Both restoration plans will be ready after correction of the Technical Specifications, which is under the process. Restoration plans for sections 1 and 3 will be prepared either by the Contractor or MDF itself in accordance with EMP and will be agreed with all relevant authorities.

Table below provides information on statuses of different management plans:

## Status of Management Plans:

Management Plan	Status
SEMP for Construction camp	Approved
SEMP for construction corridor	Approved
Waste Management Plan	Approved
Emergency Response Management Plan	Approved
Pollution Prevention Management Plan	Approved
Community Liaison Management Plan	Approved
Cultural Heritage Management Plan	Approved
Reinstatement Management Plan	Reinstatement management plan will be submitted after changing of technical specifications
Layout plan (draft) of the quarries and borrow pits and a method statement on the proposed work technology (crushing technology, measures for the minimization of waste) and material transport	Approved

# Biannual Environmental Monitoring Report

Landscaping Plan	Prepared and submitted on June 12, 2015 by the Contractor; however it was not approved by the Supervisor, thus the presented plan was not covering the issue of the dumpsite landscaping. Contractor has to amend landscaping plan and re-present it in July, 2015.
------------------	---

Table below provides information on environmental permits and licenses:

## Environmental permits and licenses

Item	Status	Comment
Inventory of trees within RoW	Done	
Permit for cutting of ordinary trees at section 1	Yes	Permission from Tbilisi City hall has been received;
Permit for cutting of red data trees at section 1	Yes	Permission has been received
Permit for tree cutting at section 3	No	The Contractor has cut trees at section 3 without agreement with Gardabani Municipality. The contractor has received permit from Road Department for cutting of trees <b>within their competence</b> . The Engineer has not approved cutting of trees at section 3
Agreement for disposal of spoil	Yes	Agreement with private land owner for disposing of spoil at section 3 was signed; Licence from Tbilisi City hall for disposing of spoil on section 1 has been received
Agreement for disposal of topsoil	No	Based on verbal agreement contractor has transported top soil, stored along RoW to the private land plot. Written agreement has not been signed
Environmental permit for asphalt plant	Yes	Environmental permit for asphalt plant has been received from MoENRP
Inventory of emissions of hazardous substances in to ambient air from batching plant	Yes	Document has been prepared by subcontractor and approved by MoENRP.
Inventory of emissions of hazardous substances in to ambient air from beam plant and garage	Yes	Document has been prepared and approved by MoENRP.
License for borrow pit	Yes	Contractor has bought 3 licensed borrow pits (license No1002016, N1002015 and 1001909). Total volume of material is 510,400 m <sup>3</sup> .
Agreement with ministry of economy for rental of land for installing of construction camp, asphalt and	Partly	Type of land plots are agricultural-it will be changed for receiving of construction permit

# Biannual Environmental Monitoring Report

batching plants		
Disposal of domestic waste	Yes	Contract with subcontractor ("Kenari" Ltd) has been signed on 01.07.2014.
Disposal of construction waste	Partly	Construction waste is temporarily storing on the territory of Construction Camp. It is proposed to dispose it together with spoil at the place, agreed with local Municipality.
Hazardous waste	Yes	The Contractor has signed contracts with licensed company "Sarini", responsible for handling of hazardous waste.

## 3.2 Site Inspection and audits

Site supervision and inspections, as well as monitoring of compliance of construction activities are important aspects to ensure the proper implementation of EMP/SSEMP requirements. Environmental management team of Construction and Supervisor Companies carry out permanent supervision activities and monitoring of the project performance in regular base.

MDF pays sizeable attention to monitor environmental issues by conducting of regular meetings with Dohwa's and Sinohydro's management and environmental stuff. Environmental specialist of MDF conducted 22 site-visits in order to ensure that the Contractors' understand what is to be done to rectify and address any environmental issues raised during project implementation process. Number of notifications was sent to Dohwa requiring improvement of its supervision activities for enhancement of environmental management.

69 site visits were conducted by the environmental specialist of Supervisor Company during reporting period and 5 non-compliance notices have been issued by him. All non-compliances have been fixed by the contractor in required time.

Environmental Specialist of Construction Company is on site three days a week and implementing inspections of construction activities in regular base. Inspection is carried out by Environmental Specialists in accordance of check-lists. Filled check-lists are available at camp site.

### Non-Compliance notices and corrective actions

Date of submission	Description of Non-Compliance	Area	Corrective action required	Deadline	Implemented mitigation measures
04.02.2015	Asphalt, milled from the existing road was disposed outside RoW and covered two trees.	PK116.50	Removal of stored material to the place, approved by the Engineer	10.02.2015	Milled asphalt has been removed
13.02.2015	Trucks, transporting spoil from PK40 are polluting existing highway with mud	PK40	Stop activity until installation of relevant washing system for tires	Immediately	Transportation of spoil from dirty sites was prohibited during rainy weather



## Biannual Environmental Monitoring Report

23.06.2015	Used oil barrels are disposed without secondary containment containers.	PK115 (construction camp)	Disposal of containers with hazardous materials according SEMP	07.07.2015	Not improved (7 days remain until deadline)
23.06.2015	Container with diesel fuel is disposed without secondary containment device	PK115 (construction camp)	Organize refueling station in accordance with pollution prevention management plan	07.07.2015	Not improved (7 days remain until deadline)
23.06.2015	In the hall near fuel station was spilled used oil	PK115 (construction camp)	Remove polluted soil and dispose it according to pollution prevention management plan	Immediately	Polluted soil was removed and temporarily stored in the barrel in covered warehouse

Contractor has been instructed to improve following environmental issues:

- Improve dust control measures;
- Improve waste management issues on construction camp;
- Prepare and submit/re-submit to engineer management plans (Landscaping plan, compensation plans) mentioned in EIA and technical specifications of Contract;
- Disposal of containers with hazardous materials according SEMP.

MDF as the project implementing entity acknowledges its responsibility with regard to the issues conditioned in the process of construction and is ready to elaborate and carry out respective arrangements within available resources aiming at issues resolution. MDF's Environmental and Resettlement Unit carries out permanent monitoring of environmental performance during ongoing works as well as safety issues. Several warning letters has been sent to the construction Supervision Company "DOHWA" and Contractor Company to stress the importance of compliance with the requirements of the HSE issues. However, arrangements made by Contractor and Supervisor in number of cases were insufficient, ineffective and failed to meet the specific time constraints.

The ADB Environmental Compliance Safeguard Review Mission held during April 30-May 8, 2015, visited project sites and met with MDF, the engineering, procurement and construction management (EPCM) Consultant (engineer) and Contractor and reviewed the environmental performance during project implementation. Situation at the project was assessed as "compliant requiring further actions and monitoring".

### **Actions taken to reflect the findings of ADB mission in April-May 2015:**

Monitoring activities carried out by MDF and Supervisor Company within the reporting period were closely linked with mission's findings that provides clear statement for further actions to be taken to improve environmental safeguards performance at the project.

ADB Mission visited and reviewed (April 30, 2015) on-going construction works under the project at Section 1 and 3 and provided the following findings:

N	ADB Mission Note	Status and actions taken
1.	Environmental permit for the Asphalt Plant was issued by the Ministry of Environment and Natural	Operation of asphalt plant has not started yet. Asphalt plant will be installed and start functioning



## Biannual Environmental Monitoring Report

	Resources Protection (MENRP) of Georgia in March, 2015. Because the distance between the asphalt plant and the worker dormitory at the camp site is 400m less than acceptable in the IEE, the Mission requested that Dohwa carefully monitor the additional mitigation measures and air quality at the asphalt plant three times per month.	in July 2015. Monitoring of air quality at asphalt plant will be implemented immediately after installation of asphalt plant, by conducting air measurements three times per month.
2.	The Contractor purchased 3 borrow pits from the companies who had licenses for extraction of sand and gravel. Licenses are available at Rustavi camp site. Contractor has prepared Borrow Pit Treatment Plan (BPTP) according to GEO legislation. Annual Reports for each borrow pit should be prepared according to the GEO legislation and submitted to the MoENRP. The latest Annual Report will be due on 1 <sup>st</sup> May, 2015. Mission requested CSC to provide guidance to the contractor to make the BPTPs acceptable as a SEMP and to reflect this issue in quarterly report and bi-annual EMR.	The Contractor was instructed to modify borrow pit treatment plans (BPTPs) in SEMP format and submit documents to the Engineer. SEMP for each borrow pit will be prepared by 25.07.2015.
3.	Waste management in satisfactory practice, outsourced by licensed companies: Contract with "Kenari" Ltd was signed on 01.07.2014 for removing the municipal waste from the containers placed on construction camp twice a week. Hazardous waste stored in doubled containment and collected by "Sarini" JSC with a contract signed on 13 November 2014. Septic tank is set up at the campsite and quarterly emptied by the subcontractor, Individual Entrepreneur – D. Gozalahvili.	
4.	Top-soil Disposal: Topsoil is temporally stored along section 3. In November-December 2014 the topsoil was removed to the private land plot, based on verbal agreement with land owner. During disposal, some part of topsoil was mixed with subsoil. Small part of topsoil was stored on the interchanges of section 3. The Mission requested the contractor pay more attention to having proper contract with respective land owners and to protecting top soil for future reinstatement activities.	
5.	Spoil disposal: For section 3 the Contractor has signed agreement with owner of private land plot and was disposing spoil on abovementioned land plot. In September 2014 Tbilisi City Hall has given permission to the Contractor for disposing of excavated material at PK 20. Since October 2014 the Contractor has disposed excavated subsoil in compliance with SEMP and Georgian legislation. At present part of spoil is stored along the route and supposed to be used for filling of interchanges and landscaping of section 3. The Mission requested Contractor to prepare Landscaping	Landscaping plan was prepared by the Contractor and submitted to the Engineer on June 12, 2015 however, it was not approved thus the plan was not including the issue of the dumpsite reinstatement. The contractor was instructed to add the issue of the dump site reinstatement, located at section 1 and re-present the amended document by 15.07.2015.

## Biannual Environmental Monitoring Report

	Plan, to be endorsed by CSC for submitting to MDF on 15 Jun 2015.	
6.	Improvement in Health-Safety management – Limited improvement has been made since the last mission. There is not enough signage nor safety barrier along both sections 1 and 3; Spoil soil and debris are stockpiled on the ROW; arrangements for traffic management are not available. A Safety Audit Report by an international safety expert will be delivered at the end of May, 2015. The Mission requested contractor and CSC pay attention to implementing the recommendations and reflect HS issues in the EMRs.	<p>Safety signs have been installed along the ROW, however not completely. Installation of signs and barriers along section 1 and 3 is planned to be implemented in full scale within the July 2015.</p> <p>MDF's Review Consultant - Ron Hunter is engaged as a technical and management consultant for the design and construction phases. Consultant is conducting site visits quarterly, reviews documentation and observes activities of the Employer, Supervision Consultant and Contractor and prepares Site Inspection Reports, which covers issues as follows: documents review and evaluation, including environmental documentation, Employer's, Engineer's, Contractor's management, observation on site activities, including physical progress, Engineer's effectiveness, Employer's presence, Construction Safety and Environmental Compliance, recommendations and etc.</p> <p>Last site inspection report N4 will be prepared in July after the site visit conducted in June 2015. All recommendations referring to HS issues provided in the report will be taken into consideration and reflected in the next EMR.</p>
7.	Secondary Road (along Section 3): The IEE was approved by ADB and placed on the web-site. Construction activities will start approximately In September 2015, pending on ADB approval on the LARP.	
8.	Section 1: The illegal dumpsite need to be levelled and covered by the top soil for tree planting in compensation of the 45 red book trees. Measures for mitigating dust and traffic safety need to be implemented.	Dumpsite has not been covered. Covering of the dumpsite with topsoil will be implemented after completion of construction activities.
9.	The Mission requested MDF to clarify, with supporting documents, the issue of tree cutting, including both 45 red book trees and others, to respond to the query from Organized Crime and Corruption Reporting Project.	MDF provided detailed information, documentation and explanations referring these issues.
10.	Compensation plan for tree replanting (S1 and S3)	<p>Compensation plan has been submitted to the Engineer in February 2015. Due to incompliance with technical specifications the Plan has not been approved.</p> <p>Engineer will correct technical specifications and then contractor will prepare new compensation</p>

# Biannual Environmental Monitoring Report

		plans. Compensation plans will be agreed with the relevant authorities – Tbilisi City Hall and Gardabani Municipality.
--	--	--

## 3.3 Consultation and Complaints

### Grievance Redress Mechanism

Grievance redress procedures for the project aim to provide an effective and systematic mechanism in responding to queries, feedbacks and complaints from affected persons (AP), other key stakeholders and the general public. In order to provide a direct channel to the affected persons (APs) for approaching project authorities and have their grievance recorded and redressed in an appropriate time frame, Grievance Redress Mechanism was established with efforts of MDF. MDF facilitated the establishment of a Grievance Redress Committee (GRC) and Grievance Focal Points.

Persons or entities affected by the project have the right to file complaints and/or queries on any aspect of environmental non-compliance. Local communities are fully informed of their rights and of the procedures for addressing the complaints whether verbally or in written way, during consultations.

In order to ensure that grievances and complaints are addressed in a timely and satisfactory manner and that all possible avenues are available to APs to air their grievances, Complaints Log books are established at construction camp site and MDF office, where complaints can be registered in special journal or electronic register (MS Excel or similar). The copy of complaints log journal with mobile numbers of relevant persons is placed at local Municipalities (Gardabani and Rustavi Gamgeoba) as well. A grievance register will be maintained at each of the locations above to record grievances and keep track of their status.

APs or other concerned individuals may visit, call or send a letter, fax or e-mail to any of the relevant persons to register their comments or complaints related to any problem raised because of environmental aspects of the project. Grievances will be logged into either at Complaints Log Book or an electronic register (MS Excel or similar) assigning compliant number with date of receipt. Complaints' will be investigated and each grievance will be assigned to the designated staff for resolution. Acknowledgement of grievance registration will be provided to complaining party within maximum 7 calendar days following the receipt of the grievance, about time in which the corrective action will be undertaken, in case if the raised problem is realistic. Abovementioned grievance mechanism does not limit the citizen's right to submit the case to the court of law just in the first stage of grievance process.

Efforts will be made to prevent and amicably resolve grievances rather than going through a legal redress process. This can be achieved through, ensuring full participation and consultation with the project affected persons, and establishing extensive communication and coordination between affected communities, EA, and relevant local governments (including Tbilisi municipality, Rustavi municipality and Gardabani rayon municipality (gamgeoba), as necessary).

None of complaints regarding environmental issues have been raised and registered at Complaints Log Book during reporting period.

# Biannual Environmental Monitoring Report

## Part IV. Environmental action plan for the next period

### Environment action plan for the next 6 month

N	Item	Action	Implementation period	Status of implementation
1.	Measurement of air quality around asphalt plant	The Contractor should measure air quality around asphalt plant 3 times per month	Immediately after installation of asphalt plant	Asphalt plant has not been installed yet
2.	Preparation of SEMP-s for all borrow pits	The contractor should prepare SEMP-s for all borrow pits	1-st document should be prepared before 28.07.2015; following SEMP-s should be submitted to the Engineer before 20.08.2015	Contractor has prepared Borrow Pits Treatment Plans (BPTPs) in accordance with Georgian Legislation.
3.	Preparation of Landscaping plan for dumpsites	The Contractor should prepare Landscaping plan for RoW and dumpsites	15.06.2015	The plan has been submitted on 12.06.2015. Due to the missing information regarding landscaping of dumpsites document has not been approved. Deadline for re-submission of corrected plan is 05.07.2015.
4.	Bringing of refueling station in accordance with pollution prevention management plan	The contractor should dispose diesel tank in accordance with pollution prevention management plan, in particular: dispose the diesel tank in the waterproof container, which volume will be 110 % of tank volume and cover fuel station	15.07.2015	The contractor has bought all needed material and will construct requested facilities before 15.07.2015.

# Biannual Environmental Monitoring Report

## Actions Taken in Response to Recommendations/Action Plan from the Previous Period

N	Item	Action	Implementation period	Status of implementation
1.	Illegal disposal of excavated soil in Mtkvari river bed	Fencing of dump site according conditions of permission of Tbilisi City Hall. Prohibit disposal of spoil out of dump site borders	01.03.2015	Dump site has been fenced. Excavated spoil is disposed within licensed borders.
2.	Disposal of hazardous waste and containers with hazardous materials on the territory of construction camp without secondary containment devises	Provide drip trays for all containers with hazardous materials	25.02.2015	Hazardous materials and oil products have been stored in covered building, in accordance with SEMP. Drip trays for disposal of oil barrels outside warehouse have not been provided
3.	Transportation of loose materials with open trucks	Cover all trucks, transporting loose materials	15.02.2015	Covers have been installed on all contractors' trucks. Drivers usually do not use installed devises. The Engineer has instructed the Contractor to follow pollution prevention measures.
4.	Emergency Response Management Plan	The plan will be prepared by the Contractor and submitted to the engineer for approval	25.02.2015	The plan has been submitted by the Contractor and approved by the Engineer.
5.	Compensation plan for ordinary trees	The plan will be prepared by the Contractor and submitted to the engineer for approval	30.02.2015 After correcting of technical specifications	The plan has been submitted by the Contractor. It was not approved due to incompliance with requirements of technical specifications.
6.	Measurement of noise level and concentration of dust in ambient air along RoW	Noise level will be checked every 2 months	30.02.2015	The Contractor measures required noise level and concentration of PM every 2 month.

## **A N N E X E S**

# Biannual Environmental Monitoring Report

## 3.4 Monitoring Data

Reference	Requirement		Action to date			Action required/comment
Material supply	Possession of official approval or valid operating license for supply of materials (asphalt, concrete, gravel)		"Inventory of emissions of hazardous materials in to ambient air for batching plant". Document is ready and has been approved by MoE.	1-st batching plant	Document has been approved by MoE	Contractor has bought licensed 3 borrow pits. Borrow Pits Treatment Plans (BPTPs) have been prepared according Georgian legislation and are available in the office. Preparation of SSEMP-s for each borrow pit was requested by the Engineer according to ADB mission notes. SSEMPs will be prepared by end of July, 2015.  Environmental Impact Assessment for asphalt plant, which will be installed at construction camp site, has been prepared; Environmental permit from Moe has been received. Operation of asphalt plant is planned to start operation in July 2015.
				2-nd batching plant	Document will be prepared within 30 days and submitted to MoE	
				Beam plant and garage	Document has been prepared and submitted to MoE for approval	
Material transport according to the schedule and routes	Truck loads covered/wetted		In general comply with EMP			Covers have been installed on all tracks in June 2015.
Top-soil stripping stage	Top-soil storage Erosion control		Top soil has been transported from temporary storage area to the private land plot, based on verbal agreement.			Written agreement with land owner should be signed. Top soil stockpiles should be protected from erosion and mixture with subsoil and other materials.
Protection of population and workers		Noise level	In accordance with standards (the Contractor measures noise level 3 times per month)			Permanent measuring of noise level near settlement and near loud equipment for protection of local population and workers (PK 32.0, PK105-129)

## Biannual Environmental Monitoring Report

		Dust and Air pollution (solid particles, suspended solids, flying heavy metal particles)	In compliance with norms (the Contractor measures PM concentration 3 times per month)	Always follow pollution prevention management plan and EMP (Cover tracks, transporting dusty materials; timely watering of all unpaved roads, used by project cars etc.)
		Vibration	In accordance with standards	Shorted working day for workers, using vibrated equipment
Waste management	Proper material and waste storage, handling, use Water and soil quality (suspended solids, oils, etc)	Most of waste management issues have been improved; Contract with the company, responsible for managing of hazardous waste has been signed	Separate storage of different types of waste; proper handling of each type of waste	
Pollution prevention	Equipment maintenance and fuelling	Pollution prevention management needs improvement	All containers and barrels with hazardous substances, diesel generators, containers with concrete additives (in case if they have not safety certificate, or they are hazardous for environment) should be disposed on secondary containment containers. Contractor should train oil spill response team and provide oil product absorbents kit for them and oil absorbents for all workshops and fuelling stations (stationary and mobile one)	
Impacts on archaeological sites and remnants; anthrax hazard	Protect potential archeological sites from damage	Non compliances have not been recorded	Provide relevant training for operators of excavators and foremen	
Reinstatement of work sites		N/A		



# Biannual Environmental Monitoring Report

## 3.5 Measurements

### DUST & NOISE TEST RESULTS for March-May, 2015

March, 2015

Location	Dust (mg/m3 )						Noise (DB )					
	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard
PK26+00	0.037	0.034	0.035	0.035	0.054	0.05	77	79	76	77	85	75
campsite	0.028	0.027	0.026	0.027	0.055	0.05	70	70	68	69	70	75
PK135+00	0.039	0.040	0.036	0.038	0.045	0.05	74	76	75	75	76	75

April, 2015

Location	Dust (mg/m3 )						Noise (DB )					
	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard
PK26+00	0.037	0.034	0.035	0.035	0.054	0.05	77	79	76	77	85	75
Camp Site	0.028	0.027	0.026	0.027	0.055	0.05	70	70	68	69	70	75
PK135+00	0.039	0.040	0.036	0.038	0.045	0.05	74	76	75	75	76	75

May, 2015

Location	Dust (mg/m3)						Noise (DB)					
	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard	Day 5th	Day 15th	Day 25th	Average	Benchmark	Standard
PK26+00	0.040	0.038	0.039	0.039	0.054	0.05	75	6	76	76	85	75
Camp Site	0.034	0.032	0.031	0.032	0.055	0.05	70	8	66	68	70	75
PK135+00	0.036	0.038	0.036	0.036	0.045	0.05	74	74	75	74	76	75

## 3.6 Photographs

	
<p>Construction camp Disposal of oil products without drip trays</p>	<p>Construction camp Containers with hazardous materials have been removed to covered building</p>
	
<p>PK 138 Milled asphalt is stored on topsoil</p>	<p>PK 138 Milled asphalt has been removed and used for paving of access roads</p>
	
<p>Contractors trucks, transported loose materials are not covered</p>	<p>Borrow pit is operating within GPS coordinates, required by license</p>



PK120

Milled asphalt was stored outside RoW and covered  
2 trees



PK120

Milled asphalt was removed and used for  
paving of access roads