

Environmental Monitoring Report

#2 Semestral Report
January 2016

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.

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GEORGIA: GEORGIAN SUSTAINABLE URBAN TRANSPORT INVESTMENT PROGRAM, Tranche 2

(Financed by the Asian Development Bank)

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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

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1. PART I. INTRODUCTION

1.1 Preliminary information

Program 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 sub-project 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).

Program Area

Sustainable Urban Transport Investment program (SUTIP), Tranche 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 Gorgasali street and ends at PK 40+00. Length of this section is 4.0 km.

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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 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;
- Construction of drainage system at section 1;
- Excavation of RoW at PK 0-10 and PK 31-40;
- Pavement of asphalt layer PK0-PK35 and on interchanges;
- Levelling of access to interchanges;
- Filling of median at section 1 and 3;
- Installation of road signs;
- Reinstatement of embankment slopes at section 3.

Physical progress of construction works by the end of December is approximately 89%.

1.3 Changes in project organization and environmental management team

The MDF is the projects' executing, implementing and disbursing agency. MDF has overall responsibility for the projects' management - including environmental, planning and supervision. New Executive Director of MDF Juansher Burchuladze was assigned in July, 2015.

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

Management of safeguards issues is carried out by the MDF through Environmental and Resettlement Unit, established in October 2014. From that time, number of Environmental and Resettlement team members has increased from 6 to 9 and currently consists of: Head of Unit, 3 environmental safeguards specialists, one safety specialist, one social and gender specialist, 2 resettlement specialists. There are also two ADB's individual consultants – one on environmental safeguards and one on resettlement issues, who also are the members 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.

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The Environmental and Resettlement Unit is involved in addressing of environmental and social safeguard issues throughout the entire projects' cycles. The Environmental and Social Specialists of the MDF, are responsible for management of the environmental and social aspects associated with development of all donor funded projects for which MDF is the responsible Executing Agency (EA). Local Environmental Consultant, was hired from September 2015 and designated to supervise ADB projects, review the IEEs/EIAs, EMPs, and SSEMPs of projects and carry out supervision of the construction performance based on approved EMPs, EIAs, and environmental standards in accordance with ADB "Safeguard Policy Statement" (2009) requirements' and acting Georgian Legislation.

1.4 Relationships with contractors, owner, lender, etc

The main institutions that are involved in IEEs/EMPs/SSEMPs implementation and monitoring, are the executing agency (EA) - MDF, the Supervision Consultant(SC), the Construction Contractors and to a lesser extent the Ministry of Environmental and Natural Resources Protection and Municipal Authorities. EA (MDF) and SC is responsible for ensuring monitoring of the project's implementation at the construction stage. Ministry of Environmental and Natural Resources Protection has the authority for periodic audits but should not be considered as a party responsible for monitoring according to this IEE and EMPs.

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/ SSEMPs. For managing environmental impacts, carrying out all of the monitoring and mitigation measures set for IEE and EMP/SSEMPs documents Contractor should establish an effective operational system and submit adequate reports to the Supervision Company (DOHWA) on the carrying out of such measures.

Contractor's HSE team consists of HSE manager Mr. Yan Ching Ling and environmental specialist Mr. Lasha Gorgiladze, who was hired in September, 2014.

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 and other environmental documentation, mentioned in Contract and EIA;
- To provide daily environmental field supervision;

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- 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;

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:

- (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.

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.

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.

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.

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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 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)¹ 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 Contractor: disposal of top soil and subsoil, installation of culverts, noise, dust and air pollution and etc.

- **Top soil storage**

Most part of top soil, removed from the RoW was mixed with subsoil. Currently the Contractor has not enough topsoil for filling of the top of dividing strip and stabilization of slopes of embankment. According IPC the Contractor has removed about 20.000 m³ topsoil from sections 1 and 3. After finishing of construction activities the Contractor was started spreading of borrow material (subsoil and gravel) on the slopes of embankment and disposing it in the dividing strip.

¹ EARF was updated in April, 2015

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The contractor was instructed to use only material, mentioned in the Contract for reinstatement of slopes and filling of top of median.

- **Subsoil Disposal**

For section 3 the Contractor has signed agreement with Rustavi municipal landfill and was disposing spoil and construction waste on abovementioned land plot. In September 2014 Tbilisi City Hall has given permission to the Contractor for disposing of excavated material (only subsoil) at PK 20 of section 1. In spite of conditions of the permission the Contractor was disposing construction waste at PK20 of section 1. After the Engineer's instructions construction waste was removed to the Gldani municipal landfill, based on written agreement.

- **Borrow Pits**

Contractor has provided licenses N1002015; N1002016; N1002318; N1002388; N1001909 for 5 borrow pits. Borrow Pits Treatment Plans (BPTP), requested by Georgian legislation have been prepared by the Contractor and submitted to the Engineer. According to ADB's CSR Mission (conducted in May 2015) instruction, the Contractor has prepared and submitted to the Engineer Borrow Pit Treatment Plans (BPTPs) in SSEMP format for each borrow pit during June-September period. BPTPs were revised and approved by MDF's environmental specialist and submitted to ADB/RETA National Environmental Safeguards Consultant for review and comments.

- **Noise and air pollution**

Noise level during the implementation of construction activities was in compliance with norms. During reporting period contractor has checked noise level at areas close to settlement and around asphalt plant 3 times per month (see annex 2. *Measurements*). According to data received in July-November 2015, the obtained results did not exceed the National Environmental Standard of Maximum Permissible Level of Noise during construction activities.

Concentration of Particular Matters (PM) in ambient air during implementation of construction activities was in compliance with norms. During reporting period contractor has checked 3 times per month concentration of PM at areas, close to settlement (see annex 2. *Measurements*). According to data received in July-December 2015, the obtained results did not exceed the National Environmental Standard of Maximum Permissible Level of dust during construction activities, therefore no additional mitigations are required.

- **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 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) have been prepared by the Contractor and submitted to MoE. Compensation plan for ordinary trees has been prepared and will be submitted to the Engineer as soon as planting locations will be approved by the Tbilisi City Hall and Gardabani Municipality.

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- **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 is planned after approval of compensation plans for red data list and ordinary trees.

- **Asphalt Plant**

Asphalt plant was 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 1.5m³ 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).

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

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;

For **Construction waste** - The Contractor has signed agreement with “Tbilserve Group” for disposal of construction waste on Gldani municipal landfill in October, 2015. Sometimes the Contractor disposes it on landfill at section 1.

- **Archaeology**

No archaeological findings have been observed during the reporting period.

- **Incidents, Accidents & Near Misses**

No incidents have been recorded during the reporting period.

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

Significant spillages of oil had place on the access road to the construction camp. According to the Engineer`s instruction, the Contactor has immediately removed polluted soil from the hall and temporally stored it in the barrels, according to requirements of pollution prevention management pan.

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The Contractor has instructed to submit act of acceptance after delivering of polluted soil to the licensed company.

Construction Company has improved pollution prevention issues mentioned in previous BA-EMR. In particular:

- Waterproof building for proper storage of oil and concrete additives was constructed;
- In all trucks special coverings were installed;
- Secondary containment container for fuel station was constructed.

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.

MDF pays sizeable attention to Dohwa to strengthen its activities as Supervisor Company. 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.

Technical Specifications were corrected. Restoration plans for sections 1 and 3 will be prepared by the Contractor in accordance with EMP as soon as relevant authorities (Tbilisi City Hal and Gardabani Municipality) will approve the planting locations.

Table below provides information on statuses of different management plans:

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Status of Management Plans:

Management Plans	Status
SEMP for Construction camp	Approved
SEMP for construction corridor	Approved
SEMPs for borrow pits	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 before 20.01.2016
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
Compensation plan for ordinary trees	The plan will be submitted before 01.02.2016

Table below provides information on environmental permits and licenses:

Environmental permits and licenses

Item	Status	Comment
Inventory of trees within RoW at section 1 and 3	Done	
Inventory of trees within RoW, located on secondary road	Done	Submitted to the ministry of Economy and biodiversity department of MoENRP
Permit for cutting of trees at secondary road	No	Required documents have been submitted by the contractor to the Ministry of Economy and biodiversity department of MoENRP. Written permission has not been received yet.
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 within their competence . The Engineer has not approved cutting

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		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
Environmental permit for asphalt plant	yes	Environmental permit for asphalt plant has been received
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	
Agreement with ministry of economy for rental of lend for installing of construction camp, asphalt and batching plants	Partly	Type of land plots are agricultural-it will be changed for receiving of construction permit.
Disposal of domestic waste	Yes	Contract with subcontractor ("Kenari" Ltd) has been signed on 01.07.2014.
Disposal of construction waste	Partly	The Contractor has signed agreement with "Tbilserve Group" for disposal of construction waste on Gldani municipal landfill. Sometimes the Contractor disposes it on landfill at section 1.
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 staff. Environmental specialist of MDF conducts 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.

67 site visits were conducted by the environmental specialist of Supervisor Company during reporting period and 13 non-compliance notices have been issued by him. Most of non-compliances have been fixed by the contractor in required time.

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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
08.07.2015	None of the Contractor's trucks, transporting loose materials are covered	PK125	Covering of all trucks when transporting loose materials EMP (p.32); EIA (p.190)	Immediately	Has not been improved
02.09.2015	The Contractor is using unsuitable material for slope construction	PK145	Unsuitable material must be excavated and replaced with suitable	Immediately	Improved
08.10.2015	Disposal of construction waste in dividing strip	PK22-24	Excavate all improper material from dividing strip	Immediately	Improved
12.10.2015	Disposal of construction waste in dividing strips	PK19-22	Excavate all improper material from dividing strip	Immediately	Improved
15.10.2015	Disposal of construction waste in dividing strips	PK15-25	Excavate all improper material from dividing strip	Immediately	Improved
21.10.2015	Disposal of construction waste on dumpsite designed for subsoil disposal, even outside licensed area	PK20-30	Removal of all unsuitable material from dumpsite; install fence around dumpsite	Immediately	Improving
21.10.2015	Disposal of construction waste along drainage channel	PK112	Removal of construction waste and it's disposal according SEMP	Immediately	Not improved
21.10.2015	Disposal of construction waste and used tires in dividing strip	PK140	Removal of construction waste and it's disposal according SEMP	Immediately	Improved

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21.10.2015	Topsoil, spread on the slopes of embankment was totally washed by water	PK145	Immediately seed grass on the reinstated slopes to prevent topsoil loss	During reinstatement of slopes of embankment	Not improved
17.11.2015	Significant oil spill on the access road to the construction camp	PK111	Remove polluted soil and pass it to the licensed company	Immediately	Partly improved
17.11.2015	Water with concrete was discharged outside the RoW directly on topsoil	PK128	Remove concrete from the ground and dispose it with construction waste	Immediately	Partly improved
30.11.2015	Construction waste was disposed on private land plot without agreement with land owner	PK126-128	Remove construction waste from the land plot	Immediately	Not improved
30.11.2015	Dividing strip and slopes of embankment are covering by subsoil instead topsoil	PK105-128	Stop activity; use only topsoil for stabilization of slopes and filling of the top of dividing strip	Immediately	Not improved

In spite of the Engineer`s multiple instructions none of NCR-s was filled and replied to the Engineer. The Contractor was instructed to reply all unfilled NCR-s before 20.01.2016.

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".

3.3 Actions taken to reflect the findings of ADB mission during reporting period

In October 2015 National Environmental Consultant of ADB under the RETA project has conducted site visit together with MDF`s Local Environmental Specialist and checked whether the

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implementation processes and activities are corresponding the EMP/SSEMP requirements. Findings during reporting period are the following:

1. According to the CSR Mission request conducted in May 2015 Contractor prepared and submitted Landscaping Plan for RoW and dumpsite in July 2015, which was endorsed by SC and approved by MDF on 30 July 2015. Issue related to top-soil disposal still needs improvement thus the top-soil which was disposed in November-December 2014 to the private land plot (based on verbal agreement with land owner) was mixed with subsoil and the most part has been damaged due to incorrect disposal at the private land plot. The Mission requested contractor (Sinohydro) to protecting top soil for future reinstatement activities.
- SSEMPs: During May 2015 CSR Mission ADB requested from CC to update Borrow Pits Management Plans (BPMP) as SSEMPs and to reflect this issue in quarterly report and bi-annual EMR. SSEMP for Rustavi Quarry (license # 1001903) was submitted on 9.9.2015, endorsed by SC, approved by PIU-MDF and reviewed/commented by the NES. Second and third SSEMPs for the rest of quarry sites were submitted in the second half of September 2015 and approved by MDF.
 - Tree cutting: Compensation Plan for ordinary trees will be finalized after changing of technical specifications, which is under the consideration. Planting of trees are planned after approval of compensation plans for red data list and ordinary trees.

Status of implementation: Technical specifications were changed. Restoration plans for sections 1 and 3 will submitted by the Contractor as soon as relevant authorities (Tbilisi City Hal and Gardabani Municipality) will approve the planting locations.

- Environmental permit for the Asphalt Plant was issued by the Ministry of Environment and Natural Resources Protection (MoENRP) of Georgia in March, 2015. Asphalt plant was installed on the territory of construction camp in July 2015. Due to disposal of settlement closer than 500 m from asphalt plant the CC was instructed to measure concentration of PM around asphalt plant and settlement area three times per month. According to data received in October 2015, the obtained results did not exceed the National Environmental Standard of Maximum Permissible Level during construction activities.
- There are improvements in Health-Safety management: Safety Action Plan has been prepared by the CC and implemented satisfactorily. In particular, installation of signs and barriers along section 1 and 3 has been implemented in full scale within the July – August 2015. Final Safety Audit Report will be prepared by the International Expert, all recommendations referring to HS issues provided in the report will be taken into consideration and reflected in the next Bi-Annual EMR to be submitted in January 2016.

Status of Implementation: Safety signs have been installed along the ROW. 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,

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Construction Safety and Environmental Compliance, recommendations and etc. All recommendations referring to HS issues provided in the reports are taken into consideration.

3.4 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 (gameoba), as necessary).

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

4. PART IV – ACTION PLAN FOR THE NEXT PERIOD

The monitoring of Environmental performance is being carried out by Contractor's and Supervising Company's environmental specialists systematically. During the next reporting period contractors will

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carry out new necessary measurements. Also, new monthly and quarterly reports will be prepared and submitted to the MDF.

Table X: Environment action plan for the next 6 month

Item	Action	Deadline	Status of implementation
Transportation of loose materials with open trucks	Cover all trucks, transporting loose materials	01.01.2016	On all contractors trucks have been installed covers. Drivers usually do not use installed devices. The Engineer has instructed the Contractor to follow pollution prevention measures
Disposal of construction waste along drainage channel	Removal of construction waste and it's disposal according SEMP	01.01.2016	Not implemented
Measurement of noise level and concentration of dust in ambient air along RoW	Measurement of noise level and concentration of dust 3 times per month	Every month	The Contractor measures required noise level and concentration of PM every month
Topsoil, spread on the slopes of embankment at PK145 was totally washed by water	Implementation of erosion control measures	During reinstatement	Needs improvement
Water with concrete was discharged outside the RoW (PK128) directly on topsoil	Remove concrete from the ground and dispose it with construction waste	01.01.2016	Needs improvement
Construction waste was disposed on private land plot without agreement with land owner	Remove construction waste from the land plot	15.12.2015	Not improved
Dividing strip and slopes of embankment are covering by subsoil instead topsoil	use only topsoil for stabilization of slopes and filling of the top of dividing strip	During reinstatement	Not improved

A N N E X E S

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Annex 1 : Monitoring Data

Implementation report on the environmental impact assessment (EIA)/initial environmental examination (IEE) mitigation requirements

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”. Documents have been submitted and approved by MoE	1-st batching plant	Document has been approved by MoE	Contractor has bought licensed borrow pits. Treatment plans have been prepared according Georgian legislation and are available in the office. SEMP-s for each borrow pit was prepared and submitted to the Engineer. Environmental Impact Assessment for asphalt plant has been prepared; Environmental permit from Moe has been received.
	2-nd batching plant		Document has been approved by MoE		
	Beam plant and garage		Document has been approved by MoE		
Material transport according to the schedule and routes	Truck loads covered/ wetted	In general comply with EMP			On all tracks in June 2015 have been installed covers. Sometimes drivers do not use covers
Top-soil stripping stage	Top-soil storage Erosion control	Significant part of topsoil, removed from the RoW has been mixed with subsoil			The Contractor was instructed to protect top soil from erosion and do not mix it with subsoil
Protection of population and workers	Limitation of	Noise level	In accordance with standards (the Contractor measures noise level 3 times per month)		Permanent measuring of noise level near settlement for protection of local population and workers (PK 32.0, PK105-129)
		Dust and Air pollution (solid	In compliance with norms (the Contractor measures PM concentration 3 times per month)		

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		particles, suspended solids, flying heavy metal particles)		unpaved roads, used by project cars et.c.)
		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, not hazardous and construction waste was signed	Separate storage of different types of waste; proper handling of each type of waste
Pollution prevention	Equipment maintenance and fueling		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 has bought oil product absorbents kit 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

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Reinstatement of work sites	Protection of slopes of embankment from erosion; Greenery of dividing strip	The Contractor has not enough topsoil for filling of the top of dividing strip and stabilization of slopes of embankment. After finishing of construction activities the Contractor was started spreading of borrow material (subsoil and gravel) on the slopes of embankment and disposing it in the dividing strip	The contractor was instructed to use only material, mentioned in the Contract for reinstatement of slopes and filling of top of median
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Annex 2: Measurements

DUST & NOISE TEST RESULTS for July-December, 2015

July 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	4	75	74	76	75

August 2015

Location	Dust (mg/m3)						Noise, Db				
	Day 1th	Day 6th	Day 17th	Day 25th		Maximum admissible concentration	Day 1th	Day 6th	Day 17th	Day 25th	admissible level of noise
Near the asphalt plant	0.099	0.034	0.029	0.197		----	60.1	65.1	64.6	55.5	70-80
500 m from asphalt plant	-	0.038	0.014	0.147		0.17	-	70	55.7	69.2	-
Settlement	0.025	0.087	0.009	0.149		0.47	53.9	50.5	75.1	49.1	70
Dormitory	0.028	0.068	0.012	0.060		-	57.9	51.1	59.7	58.6	70

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September 2015

Location	Dust (mg/m3)						Noise (DB)					
	Day 7th	Day 18th	Day 30th			Maximum admissible concentration	Day 7th	Day 18th	Day 30th			admissible level of noise
Near the asphalt plant	0.168	0.187	0.210			----	72.7	70.9	71.8			70-80
500 m from asphalt plant	0.027	0.030	0.065			0.17	68.9	59.5	70.1			-
Settlement	0.078	0.012	0.095			0.47	68.7	65.9	65.7			70
Dormitory	0.023	0.017	0.117			-	60.5	58.0	58.7			70

October 2015

Location	Dust (mg/m3)						Noise (DB)					
	Day 7th	Day 15 th	Day 23 th	Day 30 th		Maximum admissible concentration	Day 7th	Day 18th	Day 23 th	Day 23 th		admissible level of noise
Near the asphalt plant	0.120	0.115	0.118	0.167		----	61.8	57.3	67.5	65.7		70-80
500 m from asphalt plant	0.035	0.097	0.041	0.070		0.17	58.0	60.2	59.5	61.7		-
Settlement	0.046	0.038	0.034	0.058		0.47	55.7	58.1	62.1	63.8		70
Dormitory	0.105	0.057	0.101	0.124		-	52.8	53.9	57.3	56.0		70

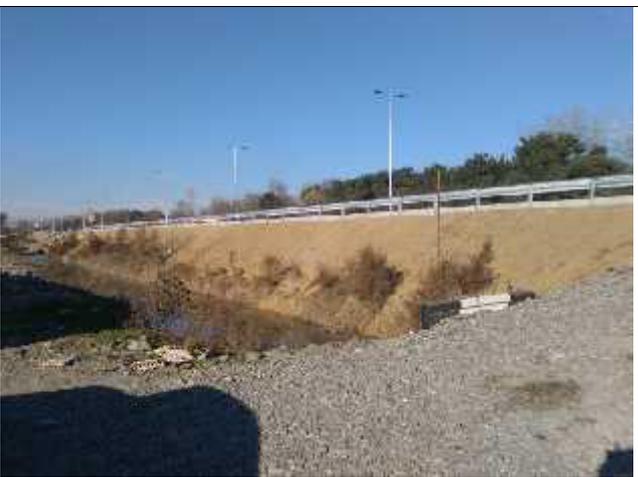
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November 2015

Location	Dust (mg/m3)					Noise (DB)						
	Day 5th	Day 13 th			Maximum admissible concentration	Day 7th	Day 18th					admissible level of noise
Near the asphalt plant	0.147	0.161			----	65.1	69.0					70-80
500 m from asphalt plant	0.092	0.101			0.17	62.9	67.5					-
Settlement	0.045	0.086			0.47	60.7	65.8					70
Dormitory	0.112	0.098			-	56.2	60.1					70

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Annex 3: Photographs

	
<p>PK21.80 Construction waste is disposing on landfill, assigned for spoil</p>	<p>PK111; Significant oil spill on the access road to the construction camp</p>
	
<p>PK128; Water with concrete was discharged outside ROW, directly on topsoil</p>	<p>PK126-128; Construction waste was disposed on the private land plot without agreement with the land owner</p>
	
<p>PK105-128; Dividing strip and slopes of embankment are covering by subsoil instead of topsoil</p>	

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Construction waste is disposing on landfill, assigned for spoil



Construction waste is disposing in dividing strip

