

Municipal Development Fund of Georgia



Arrangement of Tourism Infrastructure at Sapara Monastery in Akhaltsikhe Municipality

Sub-project Environmental and Social Screening and Environmental Review

**WORLD BANK FINANCED
THIRD REGIONAL DEVELOPMENT PROJECT**

October, 2016

Sub-project Description

The Sub-Project (SP) on Arrangement of Tourism Infrastructure at Sapara Monastery envisages:

- Construction of a pavilion and the public toilet – approximately at 150 m distance from the monastery complex, arrangement of water supply, power supply and wastewater systems for new tourism infrastructure and installation of biological treatment unit;
- Restoration-reconstruction of old gate, decorative wall and installation of concrete stairs at Sapara monastery;
- Rehabilitation of the old barn (56,7m²) located at the starting point of the footpath in the monastery complex.

The SP site is located in Akhalatsikhe Municipality, Southern Georgia, at 215 km distance from Tbilisi and 7 km distance from town Akhaltsikhe. There is the gravel road from Akhaltsikhe Town to Sapara Monastery and passes through Village Ghreli. Rehabilitation works of the mentioned road is in progress under the Third Regional Development Project.

The SP envisages implementation of the following works:

- **Construction of a pavilion and a public toilet:** Under the presented SP, at 150 m distance from the monastery complex construction of a one-storied pavilion (18,8m²) and the public toilet (22,9m²) is planned. Pavilion and a public-toilet will be arranged in one building that is to be faced with local stone material; wooden decorative elements will be used as well, whereas the roofing is to be arranged with the brick red metal-tile. In the public toilet section for persons with disabilities will be provided. Aimed at aligning the levels of the sites selected for placing of the road and a pavilion, slightly heightened platform will require to be cut off (60-80 cm). The site covering the area of 149.8 m² will be covered with asphalt and a pavilion will be placed there. The pavilion will be provided with water out of the reservoir located on the Monastery site which in its turn is supplied out of Akhaltsikhe Municipal water supply system. Aimed at waste water treatment, there will be arranged the biological treatment unit (volume 8m³/day) on the left side of the road that will be installed entirely into the ground and will be invisible for tourists. Treated water from the treatment facility will be discharged into the ravine.

Power Supply will be provided from the power transformer located near the monastery complex.

The site, on which the tourist pavilion, waste water treatment unit and public toilet will be arranged and an access road to Sapara Monastery are registered as one land plot owned by the State. Water and sewage pipes will be arranged along the access road to Sapara monastery.

Restoration-reconstruction of old gate, decorative wall and installation of concrete stairs: under the presented SP, restoration of the monastery entrance gate is planned. During processing of the monastery entry gate rehabilitation, available archive material were taken into consideration, including restoration-measuring data dated 70-ies of the previous century. Currently, the gate represents a metal gate (for vehicles) with a wooden door, placed in the wall made out of natural stone, which does not represent the

historical, ancient product and is heavily damaged. Within the SP the stone wall of the gate will be restored, existing wooden door will be replaced with the new one, concrete staircase will be arranged at the entrance which is to be lined with local stones and gravel road from the gate up to the main temple being on internal site of the Monastery will be faced with decorative Betobu slabs, existing lamps of external lightning will be dismantled and the new ones will be arranged. The new gate will be arranged for the disabled people.

Rehabilitation of the old barn: In the monastery complex, at the beginning of the footpath there is located the old storage room of industrial significance. Within the SP, the masonry of the façade wall of the storage will be restored, flat roofing will be arranged, gravel floor will be lined with local stone, wooden doors and windows will be installed and counters and shelves will be arranged. There will be located the shop-salon at the storage at which the visitors will be able to purchase the Church things and local products.

Environmental Screening and Classification

(A) IMPACT IDENTIFICATION

<p>Has the subproject a tangible impact on the environment?</p>	<p>The SP will have a modest short-term negative environmental impact and it is expected to have tangible long-term positive impact on the natural and social environment.</p>
<p>What are the significant beneficial and adverse environmental effects of the subproject?</p>	<p>The SP is expected to have positive long-term social impact through provision of the tourist infrastructure at Sapara monastery complex.</p> <p>Arrangement of the light touristic infrastructure will improve touristic attraction. The increased tourist flows will have positive social impact through improvement of employment opportunities and supporting the development of tourism-based economy and cultural heritage circuits in the Samtskhe - Javakheti region.</p> <p>The SP implementation will create opportunity for new jobs for local population and increase their incomes. The design of the touristic infrastructure is simple. The proposed morphology and use of materials appear to be seamlessly integrated into the natural environment.</p> <p>As the SP is to be implemented on a CH site, there is higher than average likelihood of encountering chance-finds during excavation works.</p> <p>In case of chance findings during the earth works the contractor should immediately stop any kind of physical work at the area and should inform MDF. MDF will in turn inform the Ministry of</p>

	<p>Culture and Monument Protection of Georgia that takes the responsibility for future actions. Work resuming may be provided only based on the written permission from the Ministry.</p> <p>The expected negative environmental and social impacts are likely to be short term and typical to medium scale rehabilitation works in modified landscape: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste.</p> <p>As a result of civil works excess material (cut soil) will be produced.</p> <p>Distance from the SP site to the Akhaltsikhe landfill is approximately 13 km. Transportation to the landfill is possible by passing through village Grely, Rustaveli street in the town of Akhaltsikhe, and village Chacharaki adjacent territory. Intense movement of heavy machinery will cause nuisance for local population and tourists.</p> <p>Transportation of construction materials also will cause nuisance for local population and tourists.</p> <p>Construction activities might impact the monastery life of monks and at the same time visitation excess to the CH sites will be restricted or suspended. However, the impact will be limited and temporary.</p> <p>In operation phase proper management of generated solid waste and waste water should be ensured to reduce impact on the environment.</p> <p>Increased tourist flows may have indirect negative environmental impacts: waste generation, vandalism, etc.</p>
<p>May the subproject have any significant impact on the local communities and other affected people?</p>	<p>The SP does not consider any land acquisition and does not entail any other type of resettlement.</p> <p>The long-term social impact will be positive, after construction of the public facilities number of employees will be increased. Moreover, temporary jobs will be created during construction and hence, income of the part of local population will be increased. This will contribute the development of the private sector and will lead to the growth of tourism-related production. Better transport conditions will be created which in turn will contribute development of tourism.</p> <p>After the construction works of souvenir shops and other facilities, number of employed persons will increase and income</p>

	<p>of local population will increase proportionally as well. It will increase presence of private sector, and result in growing number of tourism related enterprises.</p> <p>Negative impacts are short term and limited to the construction site. They are related to the possible disturbance described above.</p> <p>Significant social impact of rehabilitation activities, like change of local demographic structure, influx of new settlers, secondary development, and increase of AIDS risks is not envisaged.</p>
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(B) MITIGATION MEASURES

<p>Were there any alternatives to the sub-project design considered?</p>	<p>Alternative location for the tourist infrastructure have been considered and the optimal option selected. The existing difficult relief did not give much choice for selection of convenient locations for tourist infrastructure arranging. As a result of consultations with the ecclesiastics there was selected the site for arranging of the pavilion at 150 m distance from the main entrance of the Monastery - right side of an access road to the Monastery by which there is the natural bay, enabling vehicle means to turn in there.</p> <p>Providing of the conveyance opportunities for disabled was added to the initial design of tourist infrastructure.</p> <p>During processing of the SP design, archival materials about Sapara Monastery complex and the restoration measuring materials were studied and considered.</p>
<p>What types of mitigation measures are proposed?</p>	<p>The expected negative impacts of the construction phase can be mitigated by demarcation of the construction site, traffic management, good maintenance of the construction machinery, observance of the established working hours, and well organized disposal of waste to the formally agreed sites.</p> <p>Construction waste will be disposed at the Akhaltsikhe municipal landfill, which is located at approximately 5.3km distance from SP area.</p> <p>Instead of transporting excess inert material through several settlements to the landfill, it may be disposed in an alternative location approved by local (municipal) governing bodies in written.</p>

	<p>In case of chance finds, works will be taken on hold and notification be sent to the Ministry of Culture and Monument Protection of Georgia. Works will resume only upon written consent of the Ministry.</p> <p>Biological wastewater treatment unit will be installed and maintained properly to avoid water pollution by newly arranged sewage system.</p>
<p>What lessons from the previous similar subprojects have been incorporated into the project design?</p>	<p>Based on the lessons learned from previous similar projects, design envisages not only construction of the new building but also arrangement of resting areas for visitors, landscaping of the SP area and installation of individual waste water treatment facility for sewerage. Details securing the rights of using the building by disabled people is envisaged by the SP design.</p>
<p>Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in subproject preparation?</p>	<p>MDF and local municipality will organize consultation meeting to discuss about ER with local population and representatives of the monastery before starting of rehabilitation works.</p>

D) CATEGORIZATION AND CONCLUSION

Based on the screening outcomes,

Subproject is classified as environmental Category

A

B

C

Conclusion of the environmental screening:

1. Subproject is declined
2. Subproject is accepted

If accepted, and based on risk assessment, subproject preparation requires:

1. Completion of the Environmental Management Checklist for Small Construction and Rehabilitation Activities
2. Environmental Review, including development of Environmental Management Plan

Social Screening

Social safeguards screening information		Yes	No
1	Is the information related to the affiliation, ownership and land use status of the sub-project site available and verifiable? (The screening cannot be completed until this is available)	✓	
2	Will the sub-project reduce people's access to their economic resources, such as land, pasture, water, public services, sites of common public use or other resources that they depend on?		✓
3	Will the sub-project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?		✓
4	Will the project result in the temporary or permanent loss of crops, fruit trees and household infra-structure (such as ancillary facilities, fence, canal, granaries, outside toilets and kitchens, etc)?		✓
If answer to any above question (except question 1) is "Yes", then OP/BP 4.12 Involuntary Resettlement is applicable and mitigation measures should follow this OP/BP 4.12 and the Resettlement Policy Framework			
Cultural resources safeguard screening information		Yes	No
5	Will the project require excavation near any historical, archaeological or cultural heritage site?	✓	
If answer to question 5 is "Yes", then OP/BP 4.11 Physical Cultural Resources is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the Environmental Management Framework .			

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Cadastral information is attached.

Environmental Review and Environmental Management Plan

1. Introduction

1.1. Background Information

The Government of Georgia has requested the financing of \$60 million from the World Bank for implementation of the Third Regional Development Project (RDP 3). The total project cost is \$ 75 million and includes \$15 million funding from the Government of Georgia. The proposed project will be implemented by the Municipal Development Fund of Georgia (MDF).

The proposed development objective of RDP 3 is to improve infrastructure services and institutional capacity to support the development of a tourism-based economy of the Samtskhe-Javakheti and Mtskheta-Mtianeti regions. The envisaged activities are expected to bring direct benefits to the residents of these regions as well as to the tourists visiting them. More specifically, implementation of the project is expected to improve access, quality and reliability of public infrastructure; increase the volume of private sector investment in the region; and increase points of sales (tourism-related enterprises) in renovated culture heritage sites and cities. The Government will benefit from improved institutional capacity of selected agencies and local-self-governments. Overall, the population is expected to see higher incomes and better quality of life.

The SP for the Arrangement of Tourism Infrastructure at Sapara Monastery is a part of the RDP 3 and shall be prepared, reviewed, approved, and implemented in agreement with the requirements of the Georgian legislation and the World Bank policies applicable to the RDP 3.

1.2. Institutional Framework

The Municipal Development Fund of Georgia (hereinafter: the MDF) is a legal entity of public law, the objective of which is to support strengthening institutional and financial capacity of local government units, investing financial resources in local infrastructure and services and improving on sustainable basis the primary economic and social services for the local population (communities). MDF is designated as an implementing entity for the RDP III and is responsible for its day-to-day management, including application of the environmental and social safeguard policies.

MDF prepares and submits to the World Bank for approval the Subproject Appraisal Reports (SARs), with safeguards documents attached. These may include, as case may be, an Environmental Review (ER) along with an Environmental Management Plan (EMP), an EMP prepared using the Environmental Management Checklist for Small Construction and Rehabilitation Activities, and a Resettlement Action Plan (RAP).

Akhaltzikhe municipality will be responsible for the operation and maintenance of the tourist infrastructure, including water supply and wastewater systems based on the Investment Financing Agreement between Municipal Development Fund of Georgia and Self-governing Body of Akhaltzikhe Municipality.

1.3 Legislation and Regulations

According to the law of Georgia on Permit on Environmental Impact (2008) the SP does not require preparation of EIA and obtaining of Permit on Environmental Impact.

The SP triggers to the OP/BP 4.01 Environmental Assessment and OP/BP 4.11 Physical Cultural Resources safeguard policies.

According to the above mentioned safeguard policies and the Environmental Management Framework adopted for the current program, the SP has been classified as B (+) category and requires preparation of Environmental Review (ER) and environmental Management Plan (EMP), in compliance with recommendations of Environmental Management Framework (EMF).

2. Subproject description

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The SP envisages implementation of the following works:

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Restoration-reconstruction of old gate, decorative wall and installation of concrete stairs: under the presented SP, restoration of the Monastery entrance gate is planned. During processing of the Monastery entry gate rehabilitation, available archive material were taken into consideration, including restoration-measuring data dated 70-ies of the previous century. Currently, the gate represents a metal gate (for vehicles) with a wooden door, placed in the wall made out of natural stone, which does not represent the historical, ancient product and is heavily damaged. Within the SP the stone wall of the gate will be restored, existing wooden door will be replaced with the new one, concrete staircase will be arranged at the entrance which is to be lined with local stones and gravel road from the gate up to the main temple being on internal site of the Monastery will be faced with decorative Betobu slabs, existing lamps of external lightning will be dismantled and the new ones will be arranged. The new gate will be arranged for the disabled people.

Rehabilitation of the old barn: In the Monastery complex, at the beginning of the footpath there is located the old storage room of industrial significance. Within the Sub-Project the masonry of the façade wall of the storage will be restored, flat roofing will be arranged, gravel floor will be lined with local stone, wooden doors and windows will be installed and counters and shelves will be arranged. There will be located the shop-salon at the storage at which the visitors will be able to purchase the Church things and local products.

3. Baseline Environmental Conditions

The SP site is located in Akhalatsikhe Municipality, Southern Georgia, at 215 km distance from Tbilisi and 7 km distance from town Akhaltsikhe.

Sapara represents the Georgian Monastery of Middle Ages, established not later than the Xth Century and represents the cultural monument of national significance. Respectively the interest of tourists and pilgrims towards the site is high and in addition it is characterized with great potential from tourism development standpoint. Currently the MDF has been implementing rehabilitation of access vehicle road from Village Ghreli to Sapara Monastery, representing the section of the road connecting Akhaltsikhe and Sapara Monastery. Rehabilitation of the referenced road will support to significant increase of tourist flows.

Currently, in the vicinity of the Monastery, there is no assisting infrastructure to support tourism development, e.g. Information Center, Food bars, and Toilets; Lack of WCs also represents significant problem.

The average annual temperature in the region is 9.0°C, average temperature in January is 3,8°C, in August - 20.0°C, annual precipitation is 513 mm.

Landscape is modified because of the anthropogenic influence; there are agricultural lands, xeric vegetation-and forest (spruce, pine, deciduous species and bushes) covered slopes in the area.

The geological-engineering study of the area showed that on SP site and territories in adjacent area to them are stable and are in satisfying geological engineering condition.

The site, on which the pavilion for the visitors is considered to be arranged, is located on the right side of an access road to the Monastery. It is surrounded by forest and rocky slopes. On this site the Waste Water

Treatment Plant (WWTP) will be arranged out of which treated water will be discharged into the ravine located on the left side of the road.

Local population near Sapara Monastery, lives about 6 km from it in the village Ghreli, which belongs to Akhaltsikhe Municipality. Income for the Municipality population is provided by: agriculture, processing enterprises, small business (bakery, construction companies, etc.).

The Sapara Monastery Complex is subordinate to Akhaltsikhe and Tao-Klarjeti Eparchies. It is an effective complex.

The ensemble of Sapara Monastery consists of a group of historical monuments of different epochs. There are nine churches with the St. Saba Church being the central one. The oldest building of the Sapara ensemble is the Church dedicated to the Dormition of the Virgin, dated by the 10th century. Later, the St. Saba Church was built next to it at the brink of the XIII and XIV centuries. The belfry was built at the west side of the church at the same time. At the entrance, on the edge of the cliff, there is a small St. Stephan chapel, a single-nave building with no cupola. To the left, a cliff cape forms a wide platform. Here is located St. Saba's Church with other small churches surrounding it: the Dormition Church from the south, a small St. Dimitri chapel in the east; a small St. George Church and the St. John Chrysostom chapel in north-east. The Monastery complex also includes residential houses, palace, towers, monastic cells and different kinds of facilities. These premises are located at different heights of the mountain slope. The Sapara Monastery, once the residence of the grandees of Samtskhe, was a real fortress at one time. To the west, on top the Monastery, there are remnants of the old fortress survived.

Currently, the Monastery entrance gate, to be rehabilitated under the SP has been outdated and damaged. The masonry of the gate's stone wall to be rehabilitated within the presented SP is also exhausted and loosened.

The storage indented as a household is located on the right side of the footpath accessing Temple. At the backside of the building, there is a rock. The building from structural standpoint is in a good condition with the exception of the façade side, as the masonry on the upper right side of it is fallen down. Flat type structure is also damaged, hence precipitation leaks into the storages.

3. Potential Impacts

4.1 Construction Phase

4.1.1. Social Impacts

- **General set of social issues.** No significant social issues are associated with implementation and operation of this SP.
- **Resettlement Issues.** The SP does not imply private land acquisition and no permanent impacts are envisaged on private or leased agricultural lands and private assets or businesses.
- **Positive impact related to Job opportunities for construction workers.** Limited and temporary during construction and limited during operation.
- **Health issues related to noise, emissions, and vibration.** Limited and temporary.
- **Traffic Disruption.** Local traffic can be impacted limited and temporary by transport activities related to the SP.
- **Safety and Access.** There will be reduced access to areas adjacent to rehabilitation and potential hazards to vehicles and pedestrians during rehabilitation downtime.

4.1.2. Impacts on the physical Cultural Property

The SP envisages implementation of small quantities of works in the area of Sapara Monastery. These works include rehabilitation of entrance gate, lining of the access road to the main Temple and rehabilitation of the old storage of industrial significance. In the process of elaboration of the rehabilitation project there were considered the archive material, including restoration-measuring drawings prepared in the 70-ies of the previous century. Therefore, the risk of negative impacts on the structural integrity and historical value of the Monastery complex is minimal. In course of rehabilitation and construction activities, especially during soil excavation works, chance finds may be encountered. In such cases works will be immediately taken on hold and the Ministry of Culture and Monument Protection will be informed. Works may resume only upon formal permission from the National Agency for Cultural Heritage Preservation.

Operational phase risks are related to management of visitation, preventing vandalism on site, maintenance of water supply and sanitation systems, and household waste management.

4.1.3. Environmental Impacts

Soil Pollution

Potential pollutants from a SP of this nature include the following (this list is not exhaustive):

- Diesel fuel, lubrication oils and hydraulic fluids, antifreeze, etc. from construction vehicles and machinery;
- Miscellaneous pollutants (e.g. cement and concrete);
- Construction wastes (packaging, stones and gravel, cement and concrete residue, wood, etc.).

Water Pollution

Water pollution may result from a variety of sources, including the following:

- Spillages of fuel, oil or other hazardous substance, especially during refuelling;
- Releasing silt water from excavations;
- Silt suspended in runoff waters (“construction water”);
- Washing of vehicles or equipment;
- Exposure of contaminated land and groundwater;
- Impact on surface and/or underground water with chlorine-containing waste water that are expected to be formed in washing and disinfection process before launching operation of newly installed water pipes.

Spillages may travel quickly downhill to a watercourse or water body. Once in a watercourse, it can be difficult to contain the pollution which can then impact over a wide area downstream. It is therefore vital that prompt action is taken in the event of any potential water pollution incident.

Once the working width has been stripped of topsoil, the subsoil becomes exposed. During earthworks in a wet weather this may result in uncontrolled release of suspended solids from the work area.

Air Pollution and Noise

Potential impact of air pollution is minimal and related to operation of vehicles and heavy machinery at the construction site and during transportation of materials.

- Noise and vibration arising from heavy machinery and vehicles;
- Air emissions (from vehicles, bulldozers, excavators etc.);
- Dust (from vehicles);
- Fumes may be a concern linked to supply and transportation of materials.

Construction Related Wastes

Construction Wastes

The following types of inert waste are anticipated to be produced from these activities:

- Natural materials (soil and rock);
- Contaminated soil with non-hazardous substance or objects;
- Inert materials generated due to the demolition works within the Monastery are (tiles, stones, white brick, wood);
- Packaging materials;
- Metals (including scrap metal and wire) – negligible amount of metal waste is expected;
- Debris and domestic waste located on the area for tourist infrastructure arrangement.

Hazardous Construction Wastes

Small quantities of the hazardous wastes will arise mainly from the vehicle maintenance activities. A number of hazardous wastes, which could be generated, include:

- liquid fuels;
- lubricants, hydraulic oils;
- chemicals, such as anti-freeze;
- contaminated soil;
- spillage control materials used to absorb oil and chemical spillages;
- machine/engine filter cartridges;
- Oily rags, spent filters, contaminated soil, etc.).

Transport related impacts

- Noise & Vibration Impacts;
- Traffic congestion (nuisance);
- Air pollution;
- Mud on roads;
- Refuelling, maintenance and vehicle cleaning and related risks of soil and water contamination.

Topsoil losses due to topsoil stripping

- Topsoil washout due to improper storage and reinstatement;
- Silt runoff to watercourses and water bodies;
- Exposure of contaminated land.

4.2 Operation Phase

Potential impact related to the operation of the provided light infrastructure would be the following:

- Increase of the number of tourists will result in the increased volume of waste and noise;
- The traffic will increase in adjacent area of CH sites, which will result in the increased level of local emissions and noise as well as traffic safety issues;
- Tours of sites of worshipping may conflict with local traditions and/or religious beliefs.

The potential risk of pollution is related to disruption of waste water treatment process due to not proper operation and maintenance of the waste water treatment units.

Akhaltsikhe municipality will be responsible for the operation and maintenance of the tourist infrastructure, including water supply and wastewater systems based on the "Investment Financing Agreement between Municipal Development Fund of Georgia and Self-governing Body of Akhaltsikhe Municipality.

Positive social impact will be related to the increasing of the touristic infrastructure that will have positive effect on the local population, in terms of employment.

5. Environmental Management Plan

This Environmental Management Plan (EMP) has been prepared to ensure that negative environmental impacts associated with this SP are minimized.

The contractor is required:

1. To obtain construction materials only from licensed providers;
2. If contractor wishes to open quarries or extract material from river bed (rather than purchasing these materials from other providers), then the contractor must obtain licenses for inert material extraction;
3. If contractor wishes to operate own asphalt (rather than purchasing these materials from other providers), then the contractor must obtain an environmental permit with an established ceiling of pollutant concentrations in emissions;
4. If contractor wishes to operate own concrete plant (rather than purchasing these materials from other providers), then the contractor must prepare technical report on inventory of atmospheric air pollution stationary source and agree with the Ministry of Environment and Natural Resources Protection (MoENRP);
5. Construction waste must be disposed on the Akhaltsikhe municipal landfill (in accordance with written agreement between the construction company and the local municipality. The records of waste disposal will be maintained as proof for proper management as designed.
6. If over 200 tons of non-hazardous waste or over 1000 tons of inert materials or any volume of hazardous waste is generated annually (calculation apply to a calendar year) as a result of contractor's general activities, they shall prepare and cause the Ministry of Environment and Natural Resources Protection of Georgia to approve the Waste Inventory and Waste Management Plan for the Company, appoint an environmental manager, and submit an information on his/her identity to the Ministry of Environment and Natural Resources Protection of Georgia in accordance with requirements of the Waste Code of Georgia.

7. Waste water treatment unit to be arranged within the SP shall ensure treatment of wastewater in compliance with the requirements of the ``Technical regulation for discharging effluent from industrial and non-industrial facilities into surface water bodies`` adopted by the Resolution #17 of the Government of Georgia of January, 2014.

Copies of extraction licenses (if applicable), agreed technical report on inventory of atmospheric air pollution for operating concrete plants (if applicable), and waste disposal agreement must be submitted to the MDF prior to the commencement of works.

GOST and SNIP norms must be adhered.

ENVIRONMENTAL MANAGEMENT PLAN

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
Pre-Construction Phase			
General Conditions	Incompliance to Georgian Law and World Bank requirements	The following permits/licenses and agreements should be obtained by the works contractor and submitted to the MDF: <ul style="list-style-type: none"> – Agreement for disposal (stockpiling) of excessive soil – licenses for inert material extraction – Permits for production of such construction materials that belongs to the activity subject to ecological examination – Technical report on inventory of atmospheric air pollution stationary source and agree with the Ministry of Environment and Natural Resources Protection (MoENRP) – Agreement on household and construction waste disposal on the Akhaltsikhe landfill. 	Construction contractor
Notification of the local community on upcoming activities	Incompliance to Georgian Law and World Bank requirements	Place informational banner on the construction site carrying contact information for MDF, works supervisor company and local municipality administration. Make the banner from weather resistant material. Provide information in Georgian and English languages.	Construction contractor
Arrangements for implementation of environmental measures	Incompliance to Georgian Law and World Bank requirements Significant environmental and social impacts	<ul style="list-style-type: none"> – Appointing a person responsible for protection of social and natural environment and EMP implementation , – Training of workers regarding to social and environmental protection measures to be implemented – Delivery of supplies required for implementation of planned mitigation measures 	Construction contractor
Construction Phase			
Construction works, including:	Deterioration of ambient air	<ul style="list-style-type: none"> – All vehicles shall be maintained so that their emissions do not cause nuisance to workers or local people. All vehicles shall be checked 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
<ul style="list-style-type: none"> - Preparation of construction sites - Earth works - Installation of facilities - Machinery operations - Transportation operations 		<ul style="list-style-type: none"> and repaired in case of need to eliminate increased level of noise due to damaged parts; - Regular maintenance of diesel engines shall be undertaken to ensure that emissions are minimized, for example by cleaning fuel injectors. All plant used on site shall be regularly maintained so as to be in good working order at all times to minimize potentially polluting exhaust emissions; - Vehicle refueling shall be undertaken so as to avoid fugitive emissions of volatile organic compounds through the use of fuel nozzles and pumps and enclosed tanks (no open containers will be used to stored fuel); - Materials transported to site shall be covered/ wetted down to reduce dust. The construction site shall be watered as appropriate. Protective equipment shall be provided to workers as necessary; - During demolition works destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site; - The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust; - earth works shall be suspended during strong winds; - Construction materials and storage piles shall be covered; - Stripped soil/ excavated ground shall be stockpiled properly; - There shall be no open burning of construction / waste material at the site; - There shall be no excessive idling of construction vehicles at sites; - The SP territory shall be reinstatement immediately after finalizing of construction works. 	

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Propagation of noise and vibration	<ul style="list-style-type: none"> – The maximum speed shall be restricted in residential areas to the safety level during the pass of the trucks; – Proper technical control and maintenance practices of the machinery shall be applied; – Activities shall be limited to daylight working hours; – No-load operations of the vehicles and heavy machinery are not allowed. Proper mufflers will be used on machinery; – Ensure that machinery is in good technical condition. 	Construction contractor
	Damage of soil	<ul style="list-style-type: none"> – Demarcation of construction sites' boundaries and access roads before construction works are launched; – Adherence to demarcated work site boundaries during operations; – Stripping of topsoil from work sites (whenever possible) before starting of earthworks and stockpiling for subsequent reinstatement, in compliance with the Technical Regulations on Stripping, Stockpiling, Use and Reinstatement of Topsoil (2014); – Topsoil shall be stored in stockpiles, no more than 2m high with side slopes at a maximum angle of 45°. The following shall also be taken into consideration: <ul style="list-style-type: none"> • Dedicated storage locations shall be used that prevents the stockpiles being compacted by vehicle movements or contaminated by other materials; • Topsoil shall be segregated from subsoil stockpiles; • No material shall be stored where there is a potential for flooding; • No storage at less than 25m from river/streams, subject to the site specific topography; – Topsoil stripping during heavy rains will not be allowed; 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<ul style="list-style-type: none"> <li data-bbox="1048 320 1816 539">– Stored topsoil shall be used for reinstatement and landscaping of the SP area immediately after completion of construction works. As appropriate, this may include leveling of ground surface, reinstatement of topsoil and measures to facilitate natural recovery of vegetation; Topsoil from the sites, which will not be reinstated to the initial conditions shall be distributed carefully on the surrounding area; <li data-bbox="1048 549 1816 735">– In the event that the stockpiles experience significant erosion the contractor will be required to implement corrective action, such as installing erosion matting over the stockpiles if further surface compaction and/or topsoil seeding fails. The Contractor shall protect the stockpiles from flooding and run-off by placing berms or equivalent around the outside where necessary; <li data-bbox="1048 745 1816 900">– subsoil shall be stored in stockpiles, no more than 3m high with side slopes at a maximum angle of 60⁰; dedicated storage locations shall be used that prevents the stockpiles being compacted by vehicle movements or contaminated by other materials; subsoil shall be segregated from topsoil stockpiles. 	

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Water and soil pollution	<ul style="list-style-type: none"> – Provision of staff with toilets and bathrooms, and centralized discharge of generated wastewater in the sewer systems if possible or install temporary structures; – Ensuring that machinery are well maintained; – Refueling of machinery using respectively equipped refueling trucks, and using of drip trays during refueling operations; – Refueling and maintenance of machinery only at a specially devoted site, where topsoil is tripped and gravel layer is arranged; lubricants, fuel and solvents shall be stored exclusively in the designated sites; No fuel, lubricants and solvents storage or re-fuelling of vehicles or equipment will be allowed near the cultural heritage site; – Ensuring that construction materials are appropriately stockpiled and stored in the specially designated and temporarily constructed storage facilities; – Temporarily storage on site of all hazardous or toxic substances shall be in safe containers labeled with details of composition, properties and handling information; Spill containment materials (sorbents, sand, sawing, chips etc.) should be available on construction site; – Ensure that all spills are cleaned up immediately, and contaminated soil is respectively disposed off; – Wet cement and/or concrete will not be allowed to enter any watercourse, pond or ditch. – Cleaning up of the entire SP territory from construction waste as soon as the construction works are finalized. 	Construction contractor
	Pollution of environment by solid and liquid wastes	<ul style="list-style-type: none"> – Burning of waste is prohibited; – Paints with toxic ingredients or solvents or lead-based paints shall not be used. 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
		<ul style="list-style-type: none"> – Different types of waste (construction, hazardous, household) shall be collected separately; special sites shall be designated for waste accumulation and pollution prevention measures shall be applied there; – Construction inert waste and excess soil should be disposed on territory allocated by the Akhaltsikhe Municipality; – Temporarily storage of all hazardous or toxic substances shall be in safe containers labelled with details of composition, properties and handling information; Uncontrolled storage of hazardous wastes on the construction area is prohibited; the containers of hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching; shall be handed over to a permitted waste management company, on a contractual basis; – Any construction or municipal wastes produced during construction stage should remove from the site area frequently; – Agreements on the disposal of waste shall be obtained prior disposal is undertaken; – Upon completion of washing and disinfection of pipes and reservoirs the disinfection solution will be neutralized by the contractor prior to release to the environment – to avoid damage to terrestrial or aquatic organisms. In the case of disinfection via chlorination this is achieved by application of a reducing agent, such as sodium bisulfate to achieve de-chlorination. The reducing agent, in turn, must be applied by the contractor at the precise dosage to neutralize the disinfectant – but no more, since reducing agent residuals are also detrimental to aquatic ecosystems. 	

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Impact on traffic flow	<ul style="list-style-type: none"> - Impose speed limitation to the SP machinery; - Ensure that SP machinery move using only pre-determined routes; - The frequency of machinery movement shall be restricted. 	Construction contractor
	Health and safety risks for local community	<ul style="list-style-type: none"> - Construction site shall be properly secured and construction related traffic regulated. This includes but is not limited to: <ul style="list-style-type: none"> - Installation of the signposting, warning signs, barriers and traffic diversions: signs shall be clearly visible and the public warned of all potential hazards; - Construction site and all trenches shall be fenced and properly secured to prevent unauthorized access (especially of children); - Appropriate lighting should be provided; - Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement; - Imposing of speed limitation to SP machinery - Ensuring that SP machinery move using only pre-determined routes 	Construction contractor
	Damage to private property	<ul style="list-style-type: none"> - Ensuring that sub-project machinery move using only pre-determined routes; - Imposing of speed limitation to the sub-project machinery; - Incurred losses shall be fully compensated by the contractor. 	Construction contractor
	Conflicts with local population or other affects people	<ul style="list-style-type: none"> - Meeting with local population (if required) - Reception and addressing of complaints/grievances 	Construction contractor

Activity	Expected Negative Impact	Mitigation Measure	Responsible for implementation
	Occupational health and safety risks	<ul style="list-style-type: none"> – Informing of the SP labor about potential health and safety risks, and instructing them regarding safety measures to be adhered (before launching construction works and during civil works) – Ensuring that required personal protection equipment (e.g. helmets, gloves, etc.) is supplied and used by workers as appropriate – Ensure safety of machinery operations – Provision of safety signs for high risk zones – Implementation of measures recommended for air protection and noise abatement 	Construction contractor
	Impact on cultural heritage	<ul style="list-style-type: none"> – Suspension of construction operations if archeological objects or artefacts are discovered during earth works, informing the MDF and Ministry of Culture and Monument Protection about the chance finding and resume works only after respective permission is issued; – Cleaning up and reinstatement of the SP area immediately after the construction works are completed. 	MDF, Construction contractor
Operation Phase			
Operation of the tourist Infrastructure at Sapara Monastery including water supply and sewage systems	Pollution of environment with solid waste and waste water	<ul style="list-style-type: none"> – Regularly deliver solid waste from the site to the Akhaltsikhe landfill; – Burning of waste should not be practiced. – Sewage collector systems and biological wastewater treatment facility should be maintained in good technical condition; – Operations & Maintenance Training (upon facility start-up and 4x seasonally during guarantee period) will be executed by works contractor, including supply of Operations Manual and preparation of Training Program (Summary Report). 	Akhaltsikhe municipality Construction contractor

6. Monitoring

MDF carries overall responsibility for monitoring of the implementation of the environmental mitigation measures. A consulting company hired for supervision of works will supplement MDF's in-house capacity for tracking environmental and social compliance of works undertaken under this SP. Field monitoring checklist will be filled out and photo material attached on monthly basis. Environmental monitoring of the SP shall be implemented according with plan given below.

Narrative reporting on the implementation of EMP will be provided on monthly and quarterly basis as part of the general progress reporting of MDF. MDF will also be expected to obtain from contractors and keep on file all permits, licenses, and agreement letters which contractors are required have according to the Georgian law for extracting material, operating asphalt/concrete plants, disposing various types of waste, etc.

7. Remedies for EMP Violation

MDF, as a client of construction works, will be responsible for enforcing compliance of contractor with the terms of the contract, including adherence to the EMP.

The contractor is obliged to carry out any of its activities pursuant to the Georgian Environmental Legislation in force, and in case if any noncompliance is revealed, the contractor shall be liable to cover at its own expense all damage liquidation costs.

8. Costs of Implementation

Costs of implementing the proposed mitigation measures are small and difficult to single out from the costs of construction operations. Nonetheless, it is recommended that Bill of Quantities presented in the tender documentation carries a line item for the disposal of waste and excess materials. Other costs of adherence to good environmental practice and compliance with this EMP are expected to be integrated into the pricing of various construction activities.

MONITORING MANAGEMENT PLAN


Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
Supply with construction materials	Purchase of construction materials from the officially registered suppliers	In the supplier’s office or warehouse	Verification of documents	During conclusion of the supply contracts	To ensure technical reliability and safety of infrastructure	MDF, Construction supervisor
Transportation of construction materials and waste Movement of construction machinery	Technical condition of vehicles and machinery Confinement and protection of truck loads with lining Respect of the established hours and routes of transportation	Construction site	Inspection	Unannounced inspections during work hours and beyond	Limit pollution of soil and air from emissions; Limit nuisance to local communities from noise and vibration; Minimize traffic disruption.	MDF, Construction supervisor, Traffic Police
Earthworks	Temporary storage of excavated material in the pre-defined and agreed upon locations; Backfilling of the excavated material and/or its disposal to the formally designated locations;	Construction site	Inspection Permanent oversight by archaeologists	In the course of earth works	Prevent pollution of the construction site and its surroundings with construction waste; Prevent damage and loss of physical cultural resources	MDF, Construction supervisor NACHP
Sourcing of inert material	Purchase of material from the existing suppliers if feasible; Obtaining of extraction license by the works contract and strict	Borrowing areas	Inspection of documents Inspection of works	In the course of material extraction	Limiting erosion of slopes and degradation of ecosystems and landscapes;	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	<p>compliance with the license conditions;</p> <p>Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and landscape harmonization;</p> <p>Excavation of river gravel and sand from outside of the water stream, arrangement of protective barriers of gravel between excavation area and the water stream, and no entry of machinery into the water stream.</p>				Limiting erosion of river banks, water pollution with suspended particles and disruption of aquatic life.	
Generation of construction waste	<p>Temporary storage of construction waste in especially allocated areas;</p> <p>Timely disposal of waste to the formally designated locations</p>	<p>Construction site;</p> <p>Waste disposal site</p>	Inspection	Periodically during construction and upon complaints	Prevent pollution of the construction site and nearby area with solid waste	MDF, Construction supervisor
Traffic disruption and limitation of pedestrian access	<p>Installation of traffic limitation/diversion signage;</p> <p>Storage of construction materials and temporary placement of construction waste in a way</p>	At and around the construction site	Inspection	In the course of construction works	<p>Prevent traffic accidents;</p> <p>Limit nuisance to local residents</p>	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	preventing congestion of access roads					
Workers' health and safety	Provision of uniforms and safety gear to workers; Informing of workers and personnel on the personal safety rules and instructions for operating machinery/equipment, and strict compliance with these rules/instructions	Construction site	Inspection	Unannounced inspections in the course of work	Limit occurrence of on-the-job accidents and emergencies	MDF, Construction supervisor
OPERATION PHASE						
Management of the solid waste	Trash bins provided on site and arrangement in place for timely regular out-transporting of waste	Rehabilitated facilities	Inspection	During operation of facilities	Prevent littering of the site and area around it	Akhalsikhe Municipality Authorities
Maintenance and protection of the Site after the rehabilitation	No unauthorized construction and no informal land use in the vicinity of Sapara Monastery site	Rehabilitated facilities	Inspection	During operation of facilities	Prevent loss of the historical and aesthetic values of the site and surrounding area	Akhalsikhe Municipality Authorities
Servicing of water supply scheme and sewage treatment unit	Water supply scheme does not leak and water supply uninterrupted	Rehabilitated facilities	Inspection	During operation of facilities	Prevent water loss and water logging of the site	Akhalsikhe Municipality Authorities

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	Sewage treatment block operate smoothly				Prevent pollution of surface and ground water with untreated sewage	

Attachment 1. Cadastral information, Orthophoto and pictures of the site



N 62.11.61.031

ამონაწერის საჯარო რეგისტრაცია

გაყვანილობის რეგისტრაცია: N 62094301428 - 2016/2016-11-22/21
საჩვენებლის თარიღი: 22/06/2016 10:16:29

საკუთრების განყოფილება

ხაზი	სიგვრიანი	კუთვნილი	ფიკალი	საკუთრის საკუთრების ფაქტობრივი მფლობელის ადრესი
62	11	61	031	საკუთრის ადრესი: მთიანეთის რაიონის საკუთრების განყოფილება, 2016/09-22-01, საკუთრის წინა ნაწილი

მესაკუთრის განყოფილება

გაყვანილობის რეგისტრაცია: მთიანეთის რაიონის საკუთრების განყოფილება, N 62094301428 - 2016/2016-11-22/21
საჩვენებლის რეგისტრაცია: თარიღი: 22/06/2016

კუთვნილი ადრესი: მთიანეთის რაიონის საკუთრების განყოფილება, 2016/09-22-01, მთიანეთის რაიონის საკუთრების განყოფილება

მესაკუთრის სახელი: _____
მესაკუთრის მისამართი: _____


ამონაწერის

საკუთრის განყოფილება: _____
მესაკუთრის განყოფილება: _____

კუთვნილების

საკუთრის განყოფილება: _____
მესაკუთრის განყოფილება: _____

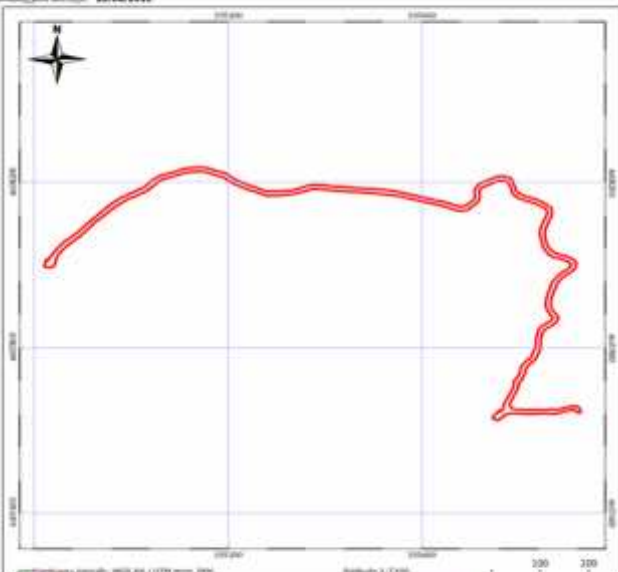
საკუთრის განყოფილების მფლობელის სახელი: _____
საკუთრის განყოფილების მფლობელის მისამართი: _____



საკუთრების განყოფილება

საკუთრის განყოფილების რეგისტრაცია: N 62.11.61.031
საკუთრის განყოფილების რეგისტრაცია: N 62094301428
საკუთრის განყოფილების რეგისტრაცია: 22/06/2016

საკუთრის განყოფილების რეგისტრაცია: 2016/09-22-01 (WGS 84 / UTM zone 38N)



საკუთრის განყოფილების რეგისტრაცია: N 62.11.61.031
საკუთრის განყოფილების რეგისტრაცია: N 62094301428
საკუთრის განყოფილების რეგისტრაცია: 22/06/2016

საკუთრის განყოფილების რეგისტრაცია: 2016/09-22-01 (WGS 84 / UTM zone 38N)

საკუთრის განყოფილების რეგისტრაცია: N 62.11.61.031
საკუთრის განყოფილების რეგისტრაცია: N 62094301428
საკუთრის განყოფილების რეგისტრაცია: 22/06/2016



Old Gate



Old Barn

