MDF
MUNICIPAL DEVELOPMENT
FUND OF GEORGIA

Water Supply System Rehabilitation for Kovladtsminda Visitor Center

Sub-Project Environmental and Social Screening and Environmental Management Plan

WORLD BANK FINANCED
REGIONAL DEVELOPMENT PROJECT

Tbilisi, Georgia

November 2016

Environmental Screening

The sub-project (SP) envisages arrangement of water supply system for tourist infrastructure located near Gurjaani Kovladtsminda Church, which is a cultural heritage monument. Until now, water supply has not been provided to the tourist infrastructure facilities, as the previous SP covered only construction of tourist infrastructure facilities excluding arrangement of water supply system. The given SP also includes arrangement of ferro-cement room for the boring well; arrangement of pressure line from the boring well to the tank; arrangement utilities of the existing pressure reservoir tank and arrangement of a chlorinator.

The SP site is located in Eastern Georgia, Kakheti region, and belongs to Gurjaani Municipality. Kovladtsminda church monastery complex is 2 km far from Bakurtsikhe-Gurjaani highway, at the high terrace of the river Tchandriskhevi. At the entrance of Gurjaani Kovladtsminda church, touristic infrastructure facilities were constructed during recent years: a souvenir shop, an open café terrace, and a reservoir tank cistern of 20 m^3 capacity.

Considering the above-mentioned, the SP envisages arrangement of water supply system for the tourist infrastructure facilities - souvenir shop, open café terrace, and WCs.

The boring well, which is to be connected to the tourist infrastructure facilities, is located in village Tchandriskhevi gorge on the left bank of Tchandriskhevi river, at 549 index of the highway. The distance from the nearest populated area – village Gurjaani is 1 km. Water flows from the well to the village and the Monastery Complex by gravity with pressure 0,8l/sec.=2,8m3/hr through a steel pipe (dimensions: d=89/3,5; d=40/3). In addition, from the above-mentioned boring well, the water supply is provided to 40 households of Mtivliantubani village. The village population is being supplied with water from another boring well too, located nearby. Thus, during the construction phase as well as after the completion of the rehabilitation works, the population will not have any disturbances regarding the water supply. Moreover, the existing water supply facilities are quite old with significant leakages that cause drop of the network pressure and decreased delivery efficiency. SP will rehabilitate most damaged part of the village pipeline, and replace it with new pipe with length of 250 meters and diameter of 110mm, resulting in the improvement of water supply to the local community.

The boring well depth is more than 253 meters; diameter - 256/12; debit – 0.8l/sec. The SP includes rehabilitation of the boring well power supply system. For the pump station, power supply will be provided from the transformer substation located in the village. Foundation tile, walls and roof of the boring well are made of monolithic ferro-concrete. Metal structures will be covered with rust-resistant lacquer. Atop roofing tile 30mm asphalt-concrete cover will be mounted. Plastering of asphalt-bitumen solution, thickness 10mm to the external surface of the wall at the place of connection with the ground.

The cistern (20 m^3 capacity) is located near the souvenir shop and open café terrace of Kovladtsminda church infrastructure; at 0.9 m height from the ground on the concrete pillars. Currently, the cistern is not functioning. The cistern is covered with glass wool, insolation foil and painted metal sheets. Chlorinator will be arranged near the cistern.

The SP includes disinfection works for the existing pipelines between the tourist infrastructure facilities and the chlorinator. Disinfecting sollution will be chemically deactivated or dissolved to permissible concentration for the release to the natural environment. During the works, water supply will to the village will not be interrupted.

The pipeline is positioned along the road and does not refer to any land in private property. Although only the part of the pipeline with the length of 12 meters crosses the road. The Land plots intended for reservoir, pump station, chlorination unit and wells are not registered yet. They are not under formal or informal private use. Land plots are currently being registered as the ownership of Gurjaani municipality.

The SP includes the following activities:

- Reconstruction of the boring well and its head-works;
- Arranging pipeline from the well to visitor center with length of 770 m and diameter 89mm;
- Arranging power supply for the boring well that is located nearby the village and is the main source for the village water supply;
- Replacing damaged parts of the village pipeline with length of 250 meters and diameter of 110mm;
- Arranging utilities for the existing pressure reservoir;
- Arranging a chlorinator near the reservoir;
- Conducting disinfection works for the existing pipelines between the tourist infrastructure facilities and the chlorinator;
- Arranging a power supply system of the boring well.

(A) IMPACT IDENTIFICATION

Has sub-project a tangible impact on the environment?	The SP will not have significant or irreversible negative impacts on the environment. No sensitive environmental receptors will be affected.
What are the significant beneficial and adverse environmental effects of sub-project?	The SP is expected to have positive long term social impact through improvement of the water supply system for the tourist infrastructure facilities located at the Gurjaani Kovladtsminda Cultural heritage site.

	By presented SP, the water usage will be optimized. The SP envisages rehabilitation of the existing water supply system/facilities, which is very old with significant leakages, causing lower network pressure and decreased delivery efficiency. Improvement of water system, especially elimination of leakages, will help to conserve water resources and this will be counted as a benefit for the environment. Expected negative environmental and social impacts are likely to be short term and typical for small to medium scale rehabilitation works in urban landscape: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste; disruption of traffic and pedestrian access. All the mentioned impacts are expected to be temporary and insignificant.
May the sub-project have any significant impact on the local communities and other affected people?	No new land take and resettlement are expected during the SP implementation. The Land plots intended for reservoir, pump station, chlorination unit and wells are not registered yet. They are not under any formal or informal private use and are currently being registered in the name of Gurjaani municipality. The SP is supposed to have positive long-term social impact through the improvement of water supply system for tourist infrastructural facilities. The improved water system eliminates the risk of the cross-contamination of the drinking water. Among the socio-economic benefits should be noted: diminution of private health and public health expenditures. Consequently, negative impacts for local communities are short term and limited to the construction site. They are related to the possible disturbance described above.

(B) MITIGATION MEASURES

Were there any alternatives to the sub-project design considered?	Two alternatives of the rehabilitation of water supply system were considered during the design work. Priority was given to the rehabilitation of the existing boring well, as the cheapest proposal, ensuring provision of better water quality to the

	tourist infrastructure facilities. Throughout the comparison (visual appraisal) of the alternatives the existing option with wells, reservoir, and pump station and pipe network has been selected as the more appropriate one, ensuring a low cost and high quality of water.
What types of mitigation measures are proposed?	The expected negative impacts of the construction phase can be easily 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. The contractor will be responsible for the waste disposal at the permitted location; use the quarry materials from the licensed quarries only; prevention of water and soil pollution (fuel spills due to equipment failure, row asphalt/concrete spills, release of untreated pipe disinfection solvent to the natural environment, etc.); and avoiding disturbance of population (noise, dust, emissions) through proper work/supplies scheduling, traffic management, good maintenance of the construction machinery. Operations & Maintenance Training (upon facility start-up) will be executed and operation manual will be supplied by works contractor to ensure safe functioning of the water supply disinfection system via chlorination and to avoid damage to the natural environment and human health.
What lessons from the previous similar projects have been incorporated into the sub-project design?	MDF have a wide experience in implementation of medium and large scale water system rehabilitation projects financed by various donor organizations. Based on lessons learned from previous similar projects, it envisages not only replacement of main water pipe lines but house connections and consumers' metering what is important for water loses reduction.
Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in sub-project preparation?	The SP has been developed by the MDF taking into consideration current needs and priorities of local population with consultation and collaboration of Municipality Assembly (Sakrebulo). Population was informed about upcoming SP and generated positive reaction of beneficiary community. (see attached file). The site-specific EMP drafted for the SP will be disclosed and discussed with local stakeholder prior to tending of works.

(C) RANKING

The project has been classified as environmental Category B according to the World Bank safeguards (OP 4.01) and requires Completion of the Environmental Management Checklist for Small Construction and Rehabilitation Activities.

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)	✓ [1]	
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 sub-project result in the temporary or permanent loss of crops, fruit trees and household infrastructure (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 sub-project require excavation near any historical, archaeological or cultural heritage site?	✓	
If answer to question 5 is "Yes", then **OP/BP 4.11Physical 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**.			

[1] The Land plots intended for reservoir, pump station, chlorination unit and wells are not registered yet. They are not under any formal or informal private use and their registration in the name of Gurjaani municipality is currently underway.

Environmental Management Plan

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE	
Country	Georgia
Project title	Regional Development Project
Sub Project title	Arrangement of Water Supply System for Facilities Located at Gurjaani Kovladtsminda Monastery, Cultural Heritage Monument
Scope of site-specific activity	The sub-project (SP) envisages arrangement of water supply system for tourist infrastructure located near Gurjaani Kovladtsminda Church, which is a cultural heritage monument. Until now water supply has not been provided to the tourist infrastructure facilities, as the previous SP covered only construction of tourist infrastructure facilities excluding arrangement of water supply system. The given SP also includes arrangement of ferro-cement room for the boring well; arrangement of pressure line from the boring well to the tank; arrangement utilities of the existing pressure reservoir tank and arrangement of a chlorinator. The SP site is located in Eastern Georgia, Kakheti region, and belongs to Gurjaani Municipality. Kovladtsminda church monastery complex is 2 km far from Bakurtsikhe-Gurjaani highway, at the high terrace of the river Tchandriskhevi. At the entrance of Gurjaani Kovladtsminda church, touristic infrastructure facilities were constructed during recent years: a souvenir shop, an open café terrace, and a reservoir tank cistern of 20 m^3 capacity. Considering the above-mentioned, the SP envisages arrangement of water supply system for the tourist infrastructure facilities - souvenir shop, open café terrace, and WCs. The boring well, which is to be connected to the tourist infrastructure facilities, is located in village Tchandriskhevi gorge on the left bank of Tchandriskhevi river, at 549 index of the highway. The distance from the nearest populated area – village Gurjaani is 1 km. Water flows from the well to the village and the Monastery Complex by gravity with pressure 0,8l/sec.=2,8m3/hr. Through a steel pipe (dimensions: d=89/3,5; d=40/3). In addition, from the above-mentioned boring well, the water supply is provided to 40 households of Mtivliantubani village. The village population is being supplied with water from another boring well too, located nearby. Thus, during the construction phase as well as after the completion of the rehabilitation works, the

	population will not have any disturbances regarding the water supply. Moreover, the existing water supply facilities are quite old with significant leakages that cause drop of the network pressure and decreased delivery efficiency. SP will rehabilitate most damaged part of the village pipeline, and replace it with new pipe with length of 250 meters and diameter of 110mm, resulting in the improvement of water supply to the local community. The boring well depth is more than 253 meters; diameter - 256/12; debit – 0.8l/sec. The SP includes rehabilitation of the boring well power supply system. For the pump station, power supply will be provided from the transformer substation located in the village. Foundation tile, walls and roof of the boring well are made of monolithic ferro-concrete. Metal structures will be covered with rust-resistant lacquer. Atop roofing tile 30mm asphalt-concrete cover will be mounted. Plastering of asphalt-bitumen solution, thickness 10mm to the external surface of the wall at the place of connection with the ground. The cistern (20 m^3 capacity) is located near the souvenir shop and open café terrace of Kovladtsminda church infrastructure; at 0.9 m height from the ground on the concrete pillars. Currently, the cistern is not functioning. The cistern is covered with glass wool, insolation foil and painted metal sheets. Chlorinator will be arranged near the cistern. The SP includes disinfection works for the existing pipelines between the tourist infrastructure facilities and the chlorinator. During the works, water supply will to the village will not be interrupted. The pipeline is positioned along the road and does not refer to any land in private property. Although only the part of the pipeline with the length of 12 meters crosses the road. The Land plots intended for reservoir, pump station, chlorination unit and wells are not registered. They are not under any formal or informal private use and their registration in the name of Gurjaani municipality is currently ongoing. The SP includes the following activities: - Reconstruction of the boring well and its head-works; - Arranging pipeline from the well to visitor center with length of 770 m and diameter 89mm; - Arranging power supply for the boring well that is located nearby the village and is the main source for the village water supply; - Replacing damaged parts of the village pipeline with length of 250 meters and diameter of 110mm; - Arranging utilities for the existing pressure reservoir;

	- Arranging a chlorinator near the reservoir; - Conducting disinfection works for the existing pipelines between the tourist infrastructure facilities and the chlorinator; - Arranging a power supply system of the boring well.		
Institutional arrangements (WB)	Task Team Leader: Rosanna Nitti	Safeguards Specialist: Darejan Kapanadze, Environment David Jijelava, Social	
Implementation arrangements (Borrower)	Implementing entity: Municipal Development Fund of Georgia	Works supervisor: Consulting company Steget	Works contractor:
SITE DESCRIPTION			
Name of institution whose premises are to be rehabilitated	Gurjaani Municipality		
Address and site location of institution whose premises are to be rehabilitated	13 Noneshvili Avenue, Gurjaani Tel: (0 353) 22 12 23; Fax: (0 353) 22 00 06; E-mail: gurjaanisraioni@gmail.com		
Who owns the land? Who uses the land (formal/informal)?	The Land plots intended for reservoir, pump station, chlorination unit and wells are not registered yet. They are not under formal or informal private use and their registration in the name of Gurjaani municipality is ongoing. Use of land portions in private ownership during SP implementation (construction of water pipe networks) is not planned.		
Description of physical and natural environment around the site	Gurjaani is situated in the fertile Alazani Plain, 415 m above sea level, and 110 km east of Georgia's capital of Tbilisi. It is the center of an important region of viticulture and winemaking. Important landmarks of the town are Akhtala, a historic spa in Gurjaani, also known as mud baths, and the early medieval Gurjaani Kovladtsminda Church, the only example of a two-domed design in Georgia. There are also several museums, the largest of which is the Gurjaani Museum of Local Lore and History. The SP activities are planned in the significantly altered and degraded landscape, away from any protected area and valuable natural habitats.		
Locations and distance for material sourcing, especially aggregates, water, stones?	Municipal area of the licensed quarry is located in 15 km distance from the SP site. The nearest landfill from the SP site is 5 km away.		
LEGISLATION			

National & local legislation & permits that apply to project activity	The SP has been classified as low risk Category B according to the WB policies and the ESMF. The SP proposal has been officially presented to the MDF by local municipality for financing and represents the need and priority of the Municipal Government according to common demands. Georgian legislation does not require any type of environmental review, approval, or permitting for the SP. Though according to the national regulatory system: (i) construction materials must be obtained from licensed providers, (ii) 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 extraction, (iii) if contractor wishes to operate own asphalt or concrete plant (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 and technical report on inventory of atmospheric air pollution stationary source agreed with Ministry of Environment and Natural Resource Protection; (iv) Permanent placement of the cut ground generated in the course of earth works in a selected location must be approved by local (municipal) governing bodies in written; (v) Construction waste must be disposed on the nearest municipal landfill in accordance with written agreement with the Solid Waste Management Company of Georgia Ltd. Copies of extraction licenses for inert materials and waste disposal permit will be provided. According to the Governmental decree #136, 11.08.05 underground fresh water extraction license must be obtained after completing construction/rehabilitation works by the local municipality administration as responsible authority for the operation of water supply system and license conditions should be adhered to. GOST and SNIP norms must be adhered. Cleansing of the pipes with chlorine constructor will be implemented in accordance with SNIP requirements.
PUBLIC CONSULTATION	
When / where the public consultation process will take /took place	Draft EMP prepared for the SP was made available for Gurjaani community and was discussed in a consultation meeting prior to

	tending of Works on January 23, 2017. Minutes of the public consultation meeting is attached.
ATTACHMENTS	
Attachment 1: Site plan / photos; Attachment 2: Minutes of the public consultation meeting.	

PART B: SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following?	**Activity/Issue**	**Status**	**Triggered Actions**
	A. Building rehabilitation	■ Yes [ ] No	See Section **A** below
	B. New construction	■ Yes [ ] No	See Section **A** below
	C. Individual wastewater treatment system	[ ] Yes ■ No	See Section **B** below
	D. Historic building(s) and districts	■ Yes [ ] No	See Section **C** below
	E. Acquisition of land[2]	[ ] Yes ■ No	See Section **D** below
	F. Hazardous or toxic materials[3]	[ ] Yes ■ No	See Section **E** below
	G. Impacts on forests and/or protected areas	[ ] Yes ■ No	See Section **F** below
	H. Handling / management of medical waste	[ ] Yes ■ No	See Section **G** below
	I. Traffic and Pedestrian Safety	■ Yes [ ]No	See Section **H** below

[2] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

[3] Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have to be notified of upcoming activities (b) The public has to be notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have to be acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (b) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (c) There will be no open burning of construction / waste material at the site (d) There will be no excessive idling of construction vehicles at sites (e) Truck loads should be confinement and protected with lining (f) Vehicles/equipment discharging black smoke must be scheduled for maintenance immediately (g) Limit vehicles speeds to 35-40 km on unpaved surfaces (h) Watering of unpaved surfaces and roads
	Noise	(a) Limit activities to daylight working hours; (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible (c) Maintaining equipment in a good working order so that extraneous noises from mechanical vibration creaking and squeaking are reduced to a minimum (d) Shutting down equipment when it is not directly in use, except where the equipment is required to run continuously.
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers (b) Septic effluent will be removed/transported by special equipment and discharged in municipal sewage system
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers (c) Construction waste will be collected and disposed properly on the agreed location (d) The records of waste disposal will be maintained as proof for proper management as designed (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
	Material supply	a) Use existing plants, quarries or borrow pits that have appropriate official approval or valid operating license b) Obtain licenses for any new quarries and/or borrowing areas if their operation is required c) Reinstate used sections of quarries and/or borrowing areas as extraction proceeds on or properly close quarries if extraction completed and license expired d) Haul materials in of peak traffic hours e) Place speed regulating, diverting, and warning signs for traffic as appropriate
	Soil contamination	a) Construction Company should organize and cover material storage areas. Lubricants, fuel and solvents should be stored and used for servicing machinery exclusively in the designated sites with adequate lining of the ground and confinement of possible operation and emergency spills b) Spill containment materials (sorbents, sand, sawing, chips etc.) should be available on construction sites. c) Mobile drip tray and Spill kits will be provided during refueling process d) The material storage sites and embankments should be protected from washing out during heavy rainfalls and flooding through covering by impermeable materials
	Safe functioning of the water supply disinfection system via chlorination	a) 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. This is achieved by application of a reducing agent - sodium bisulfate. 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. Releasing of neutralized water to the environment by the contractor will be agreed with the local municipality. b) Operations & Maintenance Training (upon facility start-up) will be executed by works contractor, including supply of Operation Manual in Georgian Language.
C. Historic building(s)	Cultural Heritage	a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.
H Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
		▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART D: MONITORING 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	To 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
Earth Works	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; In case of chance finds immediate suspension of	Construction site	Inspection	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

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?)
	works, notification of the Ministry of Culture and Monument Protection, and resumption of works exclusively upon formal consent of the Ministry.					
Sourcing of inert material	Purchase of material from the existing suppliers if feasible; Obtaining of extraction license by the works contract and strict compliance with the license conditions; Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and landscape harmonization; 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.	Borrowing areas	Inspection of documents Inspection of works	In the course of material extraction	Limiting erosion of slopes and degradation of ecosystems and landscapes; Limiting erosion of river banks, water pollution with suspended particles and disruption of aquatic life.	MDF, Construction supervisor

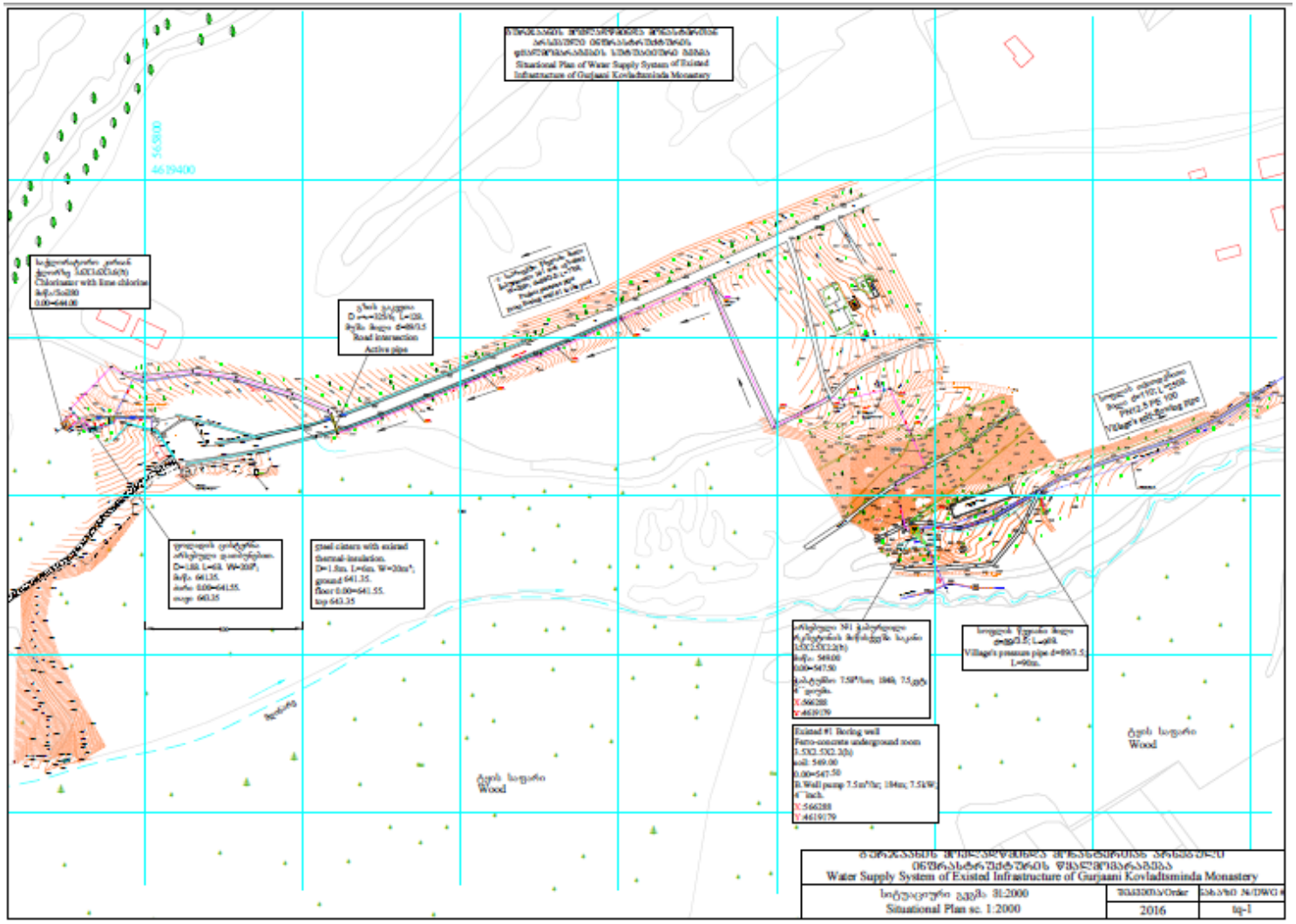
Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Generation of construction waste	Temporary storage of construction waste in especially allocated areas; Timely disposal of waste to the formally designated locations	Construction site; Waste disposal site	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	Installation of traffic limitation/diversion signage; Storage of construction materials and temporary placement of construction waste in a way preventing congestion of access roads	At and around the construction site	Inspection	In the course of construction works	Prevent traffic accidents; Limit nuisance to local residents	MDF, Construction supervisor
Cleansing of newly laid pipes and reservoir	Dissolution or chemical deactivation of disinfecting solvent at allowable concentration of residual chlorine in drinking water (1,2 mg/l) prior to release	End points of pipelines	Inspection of cleansing works	In course of pipeline washing by the time of completion of their installation	Prevent pollution of soil, ground water and surface water with concentrated chlorine	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?)
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						
Maintenance of rehabilitated water supply system	Installation of warning/ notification signs; Demarcation and installation of special fences and signs around the bore holes and the reservoir to protect sanitary norms and quality of water; Disposal of waste from the repair works to the designated landfill.	Rehabilitated pipe system	Visual inspection	During maintenance works	Prevent accidents and disruption at water supply systems	Gurjaani municipality
Safe functioning of the water supply disinfection system via chlorination	Operations & Maintenance Training upon facility start-up is executed by works contractor,	Potable water treatment facility	Inspection	Upon start-up of water supply system operation	Prevent environmental damage due to operational and emergency release of chlorine	Gurjaani municipality

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?)
	Operation Manual is supplied, training program prepared and summary report of the training provided (in Georgian language).					

Attachment 1: Site Plan and pictures

Plan of the location of the wells, reservoir, pump station and chlorination building



Photos of the land plot on which reservoir, pump station, boring well and chlorination building will be constructed

Annex 2: Minutes of the public consultation meeting

January 23, 2017

Gurjaani Municipality, Georgia

Minutes of Public Hearing

Regional Development Project (RDP)

"Water Supply System Rehabilitation for Kovladtsminda Visitor Center"

Public Hearing on Environmental Review and Environmental and Social Management Plans of the Sub-project

On January 23, 2017 at 14:00, a Public consultation meeting on Environmental and Social Management Plan of the Subproject "Water Supply System Rehabilitation for Kovladtsminda Visitor Center" was held in Gurjaani Municipality Governance (Gamgeoba). The SP is being implemented under the Regional Development Project (RDP) supported by the World Bank.

The meeting aimed to inform local population regarding the works scheduled under the SP and anticipated negative/positive impacts on natural and social environment as well as ways and means for their prevention.

The Meeting was attended by:

Employees of Gurjaani Municipality Governance: Lika Arkevanishvili, Giorgi Kachlishvili, Koba Kuprashvili, Eka Mangoshvili, Neli Shashiashvili, Gia Amisulashvili,

Residents of Gurjaani Municipality: Aleksandre Chiharashvili, Nodari Rakviashvili, Vano Burdiashvili, Marine Sepiashvili, Liza Sarkisashvili, Rusudan Mchedlishvili, Davit Mchedlishvili, Toma Maisuradze, Nugzar Nikolaishvili, Levan Khutsishvili, Anatoli Zardiashvili, Zurab Katsiashvili, Giorgi Petriashvili, Nikoloz Imedashvili, Nikoloz Tutashvili, Velta Chakvetadze, Maia Bitarishvili,

Representatives from the Municipal Development Fund of Georgia:

Ketevan Papashvili - Environmental Safeguards Specialist;

Irakli Tsurtsumia – Specialist of Projects Appraisal Unit;

The Meeting was opened by Ms. Papashvili, who provided meeting participants information on Municipal Development Fund and objectives of the meeting.

Ms. Papashvili provided the participants of the meeting with the information regarding sub-projects planned within the Regional Development Project (RDP) and talked in detail concerning works scheduled under sub-projects along with respective environmental and social risks. Ms. Papashvili

reviewed also Environmental Review and Environmental Impact Management Plan elaborated for the sub-projects. She familiarized meeting participants with the environmental requirements of the World Bank (WB) and reviewed the planned mitigation measures. Ms. Papashvili noted as well that pursuant to effective legislation of Georgia, works considered under above referenced sub-projects do not require either Environmental Impact Permit or other kind of agreement with the Ministry of Environment and Natural Resources Protection of Georgia, hence sub-projects will be executed in compliance with relevant Safeguards Policy of the WB and Operational Manual developed for the Regional Development Project.

Ms. Papashvili noted that the Environmental Impact Management Plan represents an integral part of the Contract concluded with the construction contractor and contractor is obliged to provide execution of mitigation measures stipulated by the Plan. Ms. Papashvili spoke also about environmental monitoring of sub-project and respective reporting procedures.

Ms. Papashvili provided contact persons information to participants, who can be reached by population in case of any claims related to environment and social issues.

After completion of the presentation, participants had opportunity to express own opinion and/or ask questions.

Questions	Answers and comments
Will contractor undertake obligation of hiring local population?	According to procurement rules, contractor's obligation to hire local population will not be defined by the contract. However, in most cases local work force is hired by contractors.
The boring well, which is currently main source for village water supply, still does not provide sufficient quantity of water. Will the existing water debit decrease after the rehabilitation of the boring well?	The debit will not decrease as there will be a pump which will help the water debit increase.
After the rehabilitation of the boring well, if there is still no water debit, what are we going to do?	The filters will be cleaned and moved down, the entire boring well will be cleaned and the water debit will be increased.
According to our experience, better to arrange a new boring well rather than rehabilitate to existing one.	While working on the SP design, arranging a new boring well was considered as an alternative. Since there is no free place near the facility, new boring well has to be arranged on the other side of the road. In this case, the distance might be 270 meters, which is quite much. Besides, the depth of the existing boring well which is to rehabilitated, is 600 meters. Currently it might not be possible to arrange a new boring well of the same depth. Consequently, rehabilitation of the existing boring well was considered as a better alternative.
There are several boring well in the village. Which is the one to be rehabilitated?	This is so called geologist's boring situated down the monk's boring well in the ravine.

After completion of the SP, what will be the benefits of the local population?	The pipeline through which the population are provided water supply, will be replaced with the new plastic one.
When is the rehabilitation works planned?	As soon as the tender is over, contractor will submit schedule. Only after that, the exact dates will be known.
How will the electricity provided to the boring well?	The SP includes arrangement of power supply to the boring well.
All three boring wells of the village are located at the same level. Are there any risks to reduce water level, after one of them starts functioning actively?	There will be no risk to decrease water level even if all of them function together as the distance between the boring wells are according to the norms and standards.

After discussing of Environmental Documents, meeting participants expressed their sympathy towards the scheduled project. Neither additional questions nor comments were put.

Enclosure: Photo material and copy of list of attendees.

MoM is prepared by Ketevan Papashvili - specialist of Environment and resettlement unit at Municipal Development Fund of Georgia.

January 23, 2017

Registration Sheets for the meeting attendants:

გურჯაანის მუნიციპალიტეტი

ქვეპროექტი - გურჯაანის ყოვლადწმინდის ვიზიტორთა ცენტრის წყალმომარაგების სისტემის რეაბილიტაცია

23 იანვარი 2017 წელი

მუხედრაზე დამწერეთა რეგისტრაციის ფურცელი

	სახელი, გვარი	ორგანიზაცია/მოსახლეობა	საკონტაქტო ინფორმაცია	ხელმოწერა
1.	[illegible]		595-45-47-93	
2.	[illegible]		599-85 2163	
3.	[illegible]		577-15-71-55	
4.	[illegible]		599800764	
5.	[illegible]		574 15-71-32	
6.	[illegible]	სოფ. [illegible] მცხოვრები	577-15-71-79	
7.	[illegible]		577-62-95-17	
	[illegible]		5-99-100-618	

8.	[illegible]	[illegible]	557 63 73 74	[illegible]
9.	[illegible]	— " —	591400310	[illegible]
10.	[illegible]	— " —	597 18 58 74	[illegible]
11.	[illegible]	" "	591 41 76 63	[illegible]
12.	[illegible]	[illegible]	599 880 555	[illegible]
13.	[illegible]	[illegible]	598414464	[illegible]
14.	[illegible]	[illegible]	577157192	[illegible]
15.	[illegible]	[illegible]	591-4176-52	[illegible]
	[illegible]		551-949474	[illegible]
16.	[illegible]	[illegible]	551 416886	[illegible]
17.				
18.	[illegible]		577157756	[illegible]

19.	[illegible]		599 800-926	[illegible]
20.	[illegible]		599 800879	[illegible]
21.	[illegible]		577157194	[illegible]
22.	[illegible]		593 797205	[illegible]
23.	[illegible]		599 852206	[illegible]
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Photo materials: