Villages Zeda and Kveda Nikozi, Zemo Khviti

Water Supply System Rehabilitation

Sub-Project Environmental and Social Screening and Environmental Management Plan

WORLD BANK FINANCED
SECOND REGIONAL AND MUNICIPAL INFRASTRUCTURE DEVELOPMENT PROJECT

Tbilisi, Georgia

Environmental Screening

The main goal of this Sub-project (SP) is the rehabilitation of water supply system of Gori municipality's Villages Zeda and Kveda Nikozi and Zemo Khviti what will ensure enhancement of effectiveness, efficiency and economy of the water supply system operations. It will provide high quality potable water for the population during 24 hours, what in its turn will contribute improvement of population's social-economic conditions.

SP includes the works as follows:

- Constructing of 5 boreholes (3main+2 reserve, h=85 m);
- Installation of the one pump station with 6 pumps (6X14X4 (h), h=80-100 m, Q=60-80 m^3/hour);
- Constructing of a storage reservoir (D=18m, H=4,8m, W=1000 m^3);
- Laying of metallic pipes for three villages (L=5000 m; d=159/4 mm)
- Laying of polyethylene pipes (L=33,905 m; D=40-160 mm);
- Constructing premises for water chlorination with two compact devices for electrolysis (4X9X3.60 (h)), 36m^2);
- Constructing a building for patrolling (3X4X)=12m^2;
- Installing 880 household connection boxes.

At present, there is no centralized water supply system in villages. Separate parts of villages are using different boreholes which have been drilled in different periods of time. There are 12 water boreholes in all three villages: 6 in Zemo Nikozi, 2 in Kvemo Nikozi and 4 in Zemo Kviti. Among them only six are functioning and only 4 bore holes (two – in Zemo Nikozi, and one each in the other two villages) are in a satisfactory condition. However, their debits are very low. Therefore, decision was made to establish joint water supply system for three villages, with automatic handling system and bore holes with sanitary zones around them. Five new wells will be arranged and three existed wells will be switched to the new water supply system.

The existing network of underground water pipes is in a very poor condition (water loses due to the broken pipes and reservoirs) due to its age and quality. Besides this old pipes have no capacity/throughput to be switched in a new water supply system. According to the SP design, old damaged water pipes will not be removed and new pipe lines will be laid separately.

Provision of three villages with water will be implemented by arranging of separate networks of water supply for each. In emergency situations it will be possible to connect all three networks together, or use one village's network for another village. Usually, networks will be closed and functioned separately.

Pump station, reservoir, chlorination building, building for patrolling and one well will be placed on the central part of villages in nearby territory of administrative building of local government (gamgeoba) and police station.

Territory (60X72m, 4320 m^2) where head buildings are planned to be placed will be bounded in perimeter of 260 m by wire fence with gate. The surrounding areas of pump station, chlorination building and well will be covered with asphalt and the rest of the area will be graveled. There is an old latrine at the police station, which will be destroyed and new two latrines will be arranged (for police station and for water supply station staff). Distance between latrines and nearest boreholes is 40 m which is more than required for first sanitary zone boundary (30 m for protected deep aquifers according to SNIP 2.04.02 – 84). Latrines will be equipped with watertight pits to avoid any infiltration and pollution of soil. Latrines periodically will be cleaned by pumping machine.

Chlorination premise will be located behind of pump and will consist of two rooms, operational space and store room for salt. In operational space there are two compact devices (one main and one reserve) for electrolysis, each with factory productivity 200gr/hour, getting sodium hydrochloride from brine (salt water 10%). In the operational space there are two ventilators providing 6 times changes. Getting chlorine by the method of electrolysis was selected as more safe and secure technology in comparison with using of liquid chlorine. Operator after preparation of brine/salt water will switch on electrolysis device and get hypochlorite solution which will be collected in the special vessel, from where it will be delivered to the reservoir (W=1000 m^2) by dozing pump.

Four other wells will be located 200-350 m away from pump station. The areas around the wells will be graveled and bounded in perimeter 4+6+4+6 m by wire fences.

Collected water will be distributed from the reservoir to three villages. Reservoir will function based on display indications of ultrasound water measure device and digital electronic manometer.

(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 in three villages for 880 households. 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 conserve entire water resources in the region 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. Land plots on which reservoir, pump station, chlorination unit and wells will be arranged are registered as municipal property (see attached file). The SP is supposed to have positive long term social impact through the improvement of water supply system in three villages. Rehabilitated water supply system will contribute to more effective and regular water delivery (24 hour) – a key benefit to the residents – to the villages and ensure the provision of better quality water to the population at accessible price (5,25 Gel per month per family). 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?	Three alternatives of rehabilitation project have been considered during design work. Priority was given to the rehabilitation of the existing water supply system, as the cheapest proposal, ensuring provision of better water quality to the population. Throughout the comparison (visual appraisal) of the alternatives the existing option with wells, reservoir, 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, prevent water and soil from pollution (fuel spills due to equipment failure, row asphalt/concrete spills etc.), avoid disturbance of population (noise, dust, emissions) through proper work/supplies scheduling, traffic management, good maintenance of the construction machinery, etc. Newly constructed reservoir and laid pipes will be disinfected and direct release of disinfectant into natural environment will have negative environmental impacts. Therefore deactivation of disinfectant will be required to avoid environmental damage. 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 and Self-governing entities (Sakrebulo). Population was informed about upcoming project's activities and generated positive reaction of beneficiary community. Draft EMP was disclosed on the web-site of MDF. Hard copies of the document was made available at the MDF and Gori municipality. Announcement on the public consultation meeting was placed on public information board in the administration building of Gori municipality Governance. MDF and local municipality organized consultation meeting with local population on January 23, 2015 in the office of village Nikozi representative of Gori Municipality Governor (gamgebeli). Documents on public consultations are attached.

(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)	✓	
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 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**			

Environmental Management Plan

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE	
Country	Georgia
Project title	Regional and Municipal Infrastructure Development II
Sub Project title	Water supply system rehabilitation for villages Zeda and Kveda Nikozi, and Zemo Khviti
Scope of site-specific activity	Rehabilitation of water supply system in Gori municipality for Villages Zeda and Kveda Nikozi and Zemo Khviti will lead to enhancement of the operation of water supply system and allow provision of quality potable water to the population. SP includes the works as follows: • Constructing of 5 bore wells (3main+2 reserve, h=85 m); • Installation of the one pump station with 6 pumps (6X14X4 (h), h=80-100 m, Q=60-80 m^3/hour); • Constructing of a storage reservoir (D=18m, H=4,8m, W=1000 m^3); • Laying of metallic pipes for three villages (L=5000 m; d=159/4 mm) • Laying of polyethylene pipes (L=33,905 m; D=40-160 mm); • Constructing premises for water chlorination with two compact devices for electrolysis (4X9X3.60 (h)), 36m^2); • Constructing a building for patrolling (3X4X)=12m^2; • Installing 880 household connection boxes. At present there is no centralized water supply system in villages. Separate parts of villages are using different bore holes which have been drained in different periods of time. There are 12 water bore holes in all three villages: 6 in Zemo Nikozi, 2 in Kvemo Nikozi and 4 in Zemo Kviti. Among them only six are functioning and only 4 bore holes (two – in Zemo Nikozi, and one each in the other two villages) are in a satisfactory condition. However their debits are very low. Therefore decision was made to establish joint water supply system for three villages, with automatic handling system and bore holes with sanitary zones around them. Five new wells will be arranged and three existed wells will be switched to the new water supply system. The existing network of underground water pipes is in a very poor condition (water loses due to the broken pipes and reservoirs) due to its old age and quality. Besides this old pipes have no

	capacity/throughput to be switched in a new water supply system. According to the SP design, old damaged water pipes will not be removed and new pipe lines will be laid separately. Provision of three villages with water will be implemented by arranging of separate networks of water supply for each. In emergency situations it will be possible to connect all three networks together, or use one village's network for another village. Usually, networks will be closed and functioned separately. Pump station, reservoir, chlorination building, building for patrolling and one well will be placed on the central part of villages in nearby territory of administrative building of local government (gamgeoba) and policy. Territory (60X72m, 4320 m^2) where head buildings are planned to be placed will be bounded in perimeter of 260 m by wire fence with gate. Toilet (latrine) will be arranged on the watertight pit. The surrounding areas of pump station, chlorination building and well will be covered with asphalt, while the rest of the area will be graveled. There is an old latrine at policy building, which will be destroyed and new latrine will be arranged for police station and for water supply station staff. Distance between latrines and nearest boreholes is 40 m which is more than required for first sanitary zone boundary (30 m for protected deep aquifers according to SNIP 2.04.02 – 84). Latrines will be equipped with watertight pits to avoid any infiltration and pollution of soil. Latrines periodically will be cleaned by pumping machine. Chlorination premise will be located behind of pump and will consist of two rooms, operational space and store room for salt. In operational space there are two compact devices (one main and one reserve) for electrolysis, each with factory productivity 200gr/hour, getting sodium hydrochloride from brine (salt water 10%). In the operational space there are two ventilators providing 6 times changes. Getting chlorine by the method of electrolysis was selected as more safe and secure technology in comparison with using of liquid chlorine. Operator after preparation of brine/salt water will switch on electrolysis device and get hypochlorite solution which will be collected in the special vessel, from where it will be delivered to the reservoir (W=1000 m^2) by dozing pump. Four other wells will be located 200-350 m away from pump station. The areas around the wells will be graveled and bounded in perimeter 4+6+4+6 m by wire fences.

	From the reservoir collected water will be distributed among three villages. Reservoir will function based on display indications of ultrasound water measure device and digital electronic manometer.		
Institutional arrangements (WB)	Task Team Leader: Xiaolan Wang	Safeguards Specialist: Darejan Kapanadze	
Implementation arrangements (Borrower)	Implementing entity: Municipal Development Fund of Georgia	Works supervisor: Consulting company Eptisa Servicios de Ingenieria S.L. Spain	Works contractor: LTD "Mshenebeli 80"
SITE DESCRIPTION			
Name of institution whose premises are to be rehabilitated	Gori Municipality		
Address and site location of institution whose premises are to be rehabilitated	16 Stalini street, Gori Tel: 0 370 27 51 96; 0 370 27 30 13 E-mail: gori.municipality@gmail.com Villages Zeda and Kveda Nikozi, and Zemo Khvitiare located near the city of Gori (30 km), in eastern Georgia, which serves as the regional capital of Shida Kartli and the centre of the homonymous administrative district (population: 49,500). The distance from Tbilisi is 85 km.		
Who owns the land? Who uses the land (formal/informal)?	Land plots on which reservoir, pump station, chlorination building and well will be arranged are registered as municipal property. Usage of land portions in private ownership during project implementation (construction of water pipe networks) is not planned.		
Description of physical and natural environment around the site	Villages -Zeda and Kveda Nikozi, and Zemo Khviti, are located near Gori. Distance from Tbilisi is 110 km. Population of the village Zemo Nikozi is 1060 inhabitants (330 households), of the Kvemo Nikozi – 868 inhabitants (270 households) and of the village Zemo Khviti – 956 inhabitants (280 households). These villages are connected to other villages and cities of Georgia by motor roads and railway's dead-end line. Villages are located on the rocky relief 30 km north from city Gori. From north these territories are bordered by the city Tskhinvali. All three villages are united under one community council. Mentioned territories are on the right side of river Didi Liakvi gorge. It is a valley surrounded by mountains – Caucasian slope, Likhi and		

	Trialeti ranges. Main elements of the relief are eroded ravines and small terraces. All three villages are located of the right bank of the river Didi Liakhvi at an altitude of 820-850 meters. 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?	Water will be available at the construction sites from the municipal water supply system. Distance to the nearest licensed borrow pit is approximately 25 km.
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. 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 newly laid pipes with chlorine constructor should be implemented in accordance with SNIP requirements.
PUBLIC CONSULTATION	
When / where the public consultation process will take /took place	Draft EMP was disclosed on the web-site of MDF. Hard copies of the document was made available at the MDF and Gori municipality. Announcement on the public consultation meeting was placed on public information board in the administration building of Gori municipality Governance. MDF and local municipality organized consultation meeting with local population on January 23, 2015 in the office of village Nikozi representative of Gori Municipality.
ATTACHMENTS	
Attachment 1: Site plan / photos Attachment 2: Documents of Public Consultation Process Attachment 3: Agreements for Waste Disposal Attachment 4: License for the extraction of natural construction material Ground water extraction license (to be provided)	

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[1]	[ ] Yes ■ No	See Section **D** below
	F. Hazardous or toxic materials[2]	[ ] 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

[1] 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.

[2] 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 been notified of upcoming activities (b) The public has been 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 been 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. c) Operations & Maintenance Training (upon facility start-up) will be executed by works contractor, including supply of Operation Manual in Georgian Language.
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. ▪ 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 works, notification of the	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?)
	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 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
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,	Construction site	Inspection	Unannounced inspections in the course of work	Limit occurrence of on-the-job accidents and emergencies	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?)
	and strict compliance with these rules/instructions					
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	Gori municipality
Safe functioning of the water supply disinfection system via chlorination	Operations & Maintenance Training upon facility start-up is executed by works contractor, Operation Manual is supplied, training program prepared and summary report of the training provided (in Georgian language).	Potable water treatment facility	Inspection	Upon start-up of water supply system operation	Prevent environmental damage due to operational and emergency release of chlorine	Gori municpality

Attachment 1: Site Plan and pictures

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

Land plot on which reservoir, pump station, two wells (#1 and #4) and chlorination building will be constructed

Planned location of the well #2

Planned location of the well #3

Planned location of the well #5

Attachment 2: Documents on Public Consultation Process

January 23, 2015 23

Georgia, village Nikozi, Gori municipality

Minutes of public consultation meeting

on draft Environmental management Plan

for rehabilitation of Gori municipality villages Zemo and Kvemo nikozi and Zemo Khviti water supply system

Public consultation regarding national and social environment impact management plan of Zemo Nikozi, Kvemo Nikozi and Zemo Khviti water supply system rehabilitation was held on January 23, 2015 at municipality governor administration building. Aim of the meeting was to provide information to local population regarding expected negative impact on natural and social environment within the scope of scheduled works and ways of prevention.

Attendants:

Gori Municipality board and council representatives:

Trustee of village Nikozi

Giorgi Papitashvili –Head of Gori municipality board property management unit

Local population representatives: Giorgi Esiashvili, Arsen Devidze, Teimuraz Lazarashvili,Giorgi TatraSvili, Vakhtang Longurashvili, Levan Longurashvili, Suliko Longurashvili, Valeri Mchdladze, Vasia Lomsadze, Zaza Mariamidze, Leri Mchedlidze, Jaba abramiani, Givimetreveli, Kakha Abramiani,Levan Lazarashvili, Vepkhia Badishvili, Zaza Azarashvili, Giorgi Sadzaglishvili, Otar Melanashvili, Aleksandre Melanashvili, Kakhaber Lazarashvili , Girogi Gogishvili, Temo Shalutashvili, Shota Lazarashvili, Lasha Devidze, Dato Lazarashvili, Vova Gogishvili, Tamaz Gogishvili, Zaza Gogoshvili.

Representative of civil works contractor Ltd " Mshenebeli 80": Guram Shvelidze and Giorgi Oboladze.

Representatives of Municipal Development Fund of Georgia:

Nino Patarashvili – Environmental safety specialist

Zviad Parkadze – Project monitoring specialist

Mikheil Tsereteli – Intern

Meeting was opened by village trustee who briefly introduced the works that are scheduled within the scope of sub project. He mentioned that the project is financed by World Bank and Gori municipality board and in case of timely and successful implementation villages located through conflict zone will be provided with uninterrupted water supply, which they are waiting for years.

N. Patarashvili presented natural and social environmental management plan. She introduced social and natural screening procedures and requirements, scheduled works within the scope of subproject, expected social and environmental impacts and the measures of prevention and mitigation. She mentioned that EMP is an integral part of the contract drawn up with civil works contractor and contractor is obliged to fulfill all scheduled works. N. Patarashvili provided contact persons information who will be contacted by local population in case of social and environmental complaints.

After completion of the presentation population was able to expressed their opinion and/or ask questions regarding presented issues. Following questions were asked by participants.

Questions and notes	**Answers and comments**
Will local population be hired on works?	Contractor representative explained that specialist of the company with technical skills and qualification will be hired for civil works, as for other manpower company will hire local population with great pleasure.
Who owns the territory where bore hole arrangement is envisaged for water supply provision?	Territory belongs to local municipality.

By the end of the meeting local population representatives expressed positive attitude towards project implementation, they hope for timely completion of water supply system rehabilitation and uninterrupted water supply provision.

Photo material of the meeting and copy of registration is attached below.

Minutes are prepared by MDF environmental safety specialist Nino Patarashvili.

January 23, 2015 23

Photos

List of Participants

რეგიონული და მუნიციპალური ინფრასტრუქტურის განვითარების მეორე პროექტი

გორის რაიონის სოფლების: ზემო ნიქოზის, ქვემო ნიქოზის და ზემო ხვითის წყალსადენის რეაბილიტაციის ქვე-პროექტის

გარემოს დაცვის მართვის გეგმის საჯარო განხილვა

23 იანვარი 2015 წელი

შეხვედრაზე დამსწრეთა რეგისტრაციის ფურცელი

	სახელი, გვარი	ორგანიზაცია	საკონტაქტო ინფორმაცია	ხელმოწერა
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17.	[illegible]	[illegible]		[illegible]
18.	[illegible]	[illegible]		[illegible]
19.	[illegible]	[illegible]		[illegible]
20.	[illegible]	[illegible]	551,73,72,53	[illegible]
21.	[illegible]	[illegible]	598,72,72,36	[illegible]
22.	[illegible]	[illegible]	595,63,53,86	[illegible]
23.	[illegible]	[illegible]	599,32,99,36	[illegible]
24.	[illegible]	[illegible]		[illegible]
25.	[illegible]	[illegible]		[illegible]

თეკო	ძალყუაშვილი		თ. [signature]
ჯონი	ლაზარაშვილი		ჯ. [signature]
ნაზი	თევზაძე		ნ. [signature]
ლაშა	ლაზარაშვილი		ლ. [signature]
ვოვა	გოგიაშვილი	599-05-35-06	ვ. [signature]
თამაზი	ძოწიშვილი	5956 85 96 50	თ. [signature]
ზაზა	ჯოჯიშვილი	59[illegible]9008641	[signature]

Attachment 3: Agreement for Waste Disposal from Gori Municipality

გორის მუნიციპალიტეტის გამგეობა

საქართველო. გორი 1400 სტალინის გამზ.№16; ტელ.: 0 370 27 50 58

№ 233 02 თებერვალი 2015 წ.

შ. პ. ს „შენებელი 80"-ის დირექტორს

ბატონ ვალერი ხუცხრიკიძეს

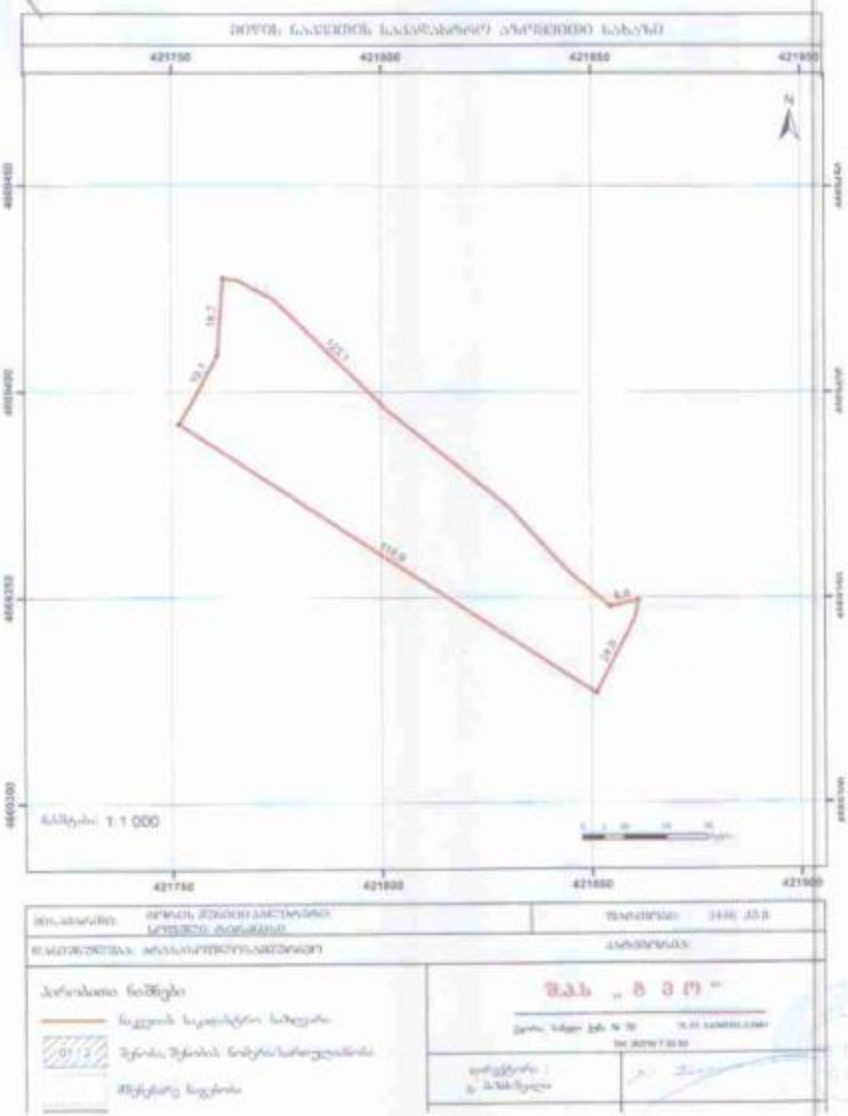
ბატონო ვალერი,

გორის მუნიციპალიტეტის გამგეობაში შემოსულია თქვენი წერილი N 19 (გამგეობის რეგისტრაციის ნომერი N 269-23.01.2015 წ) სადაც აღნიშნავთ, რომ N 6255 14.11.2012 წ. წერილის საფუძველზე გსურთ მოგცეთ უფლება ჩვენს მიერ უკვე ნებადართულ ტერიტორიაზე მოახდინოთ, (კონტრაქტი N GOG/ ET/CW/025 და N SRMIDP/CW/NCB/04-2014-ის ფარგლებში), განხორციელებული სამუშაოების შედეგად წარმოქმნილი ზედმეტი გრუნტის განთავსება, რომელიც გადასწორებული იქნება სამუშაოების დასრულებისას. წერილს თან ერთვის თქვენს მიერ წარმოდგენილი ტერიტორიის ა'ზომვით ნახა'ზები.

გორის მუნიციპალიტეტის გამგეობას მიზანშეწონილად მიაჩნია გამოგიყოთ მიწის ნაკვეთი შენებლობისას ამოღებული გრუნტის ნაყარის მოსაწყობათ, ზედამხედველობის სამსახურთან და გამგებლის წარმომადგენელთან შეთანხმებით.

პატივისცემით,

გორის მუნიციპალიტეტის გამგებელი. დავით ონიაშვილი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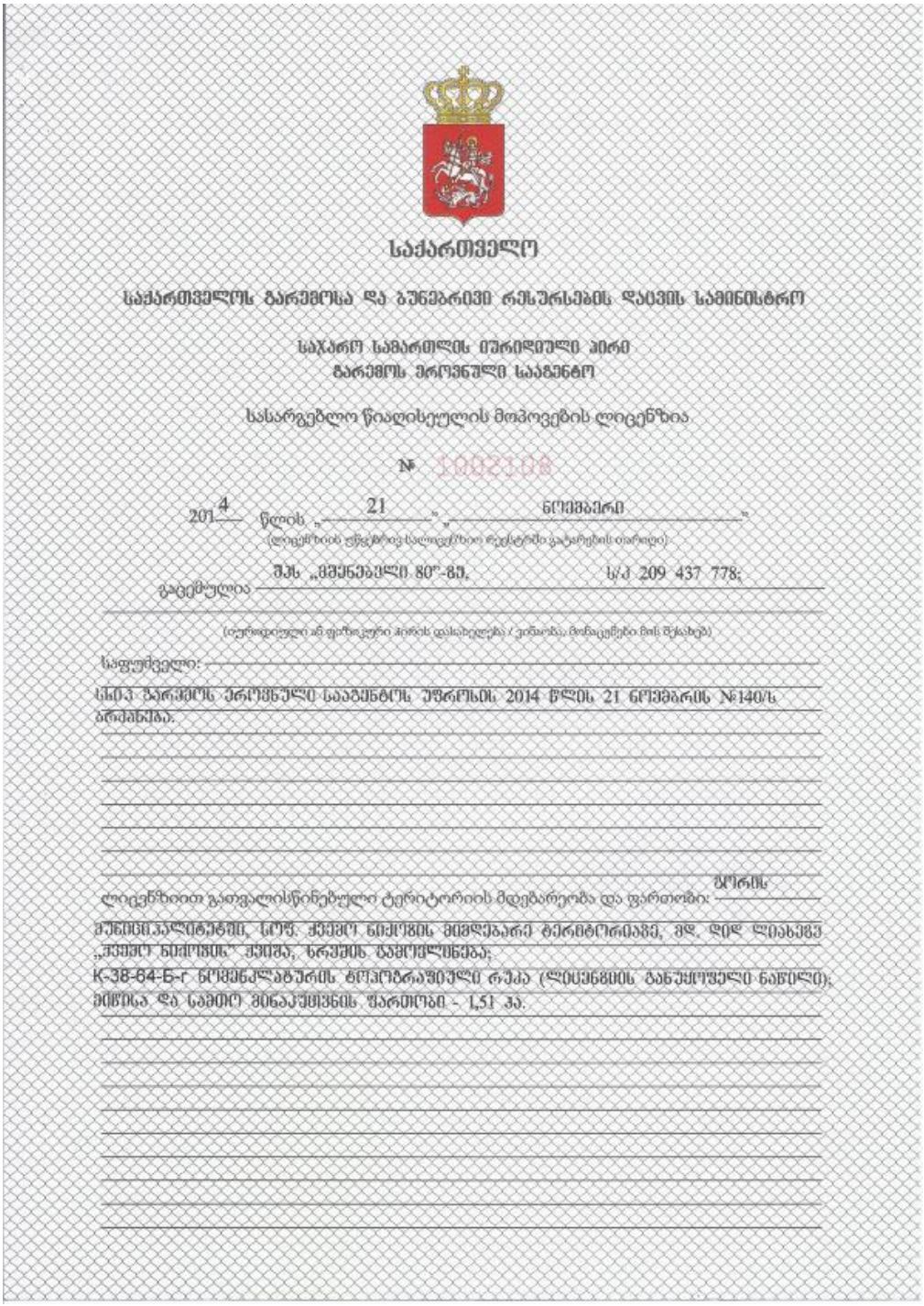
Attachment 4: Sand-gravel extraction license N1002108, License holder LTD “Mshenebeli 80”, the license is valid until 21.11.2017



საქართველო

საქართველოს გარემოსა და ბუნებარივი რესურსების დაცვის სამინისტრო

საჯარო სამართლის იურიდიული პირი
გარემოს ეროვნული სააგენტო

სასარგებლო წიაღისეულის მოპოვების ლიცენზია

№ 1002108

2014 წლის „21“ ნოემბერი
(ლიცენზიის ელექტრონული ვერსიის რეესტრში გატარების თარიღი)

გაცემულია შპს „მშენებელი 80“-ზე, ს/კ 209 437 778;
(ფიზიკური ან იურიდიული პირის დასახელება / კოდი და მონაცემები მის შესახებ)

საფუძველი:
სსიპ გარემოს ეროვნული სააგენტოს უფროსის 2014 წლის 21 ნოემბრის №140/ს ბრძანება.

ლიცენზიით გათვალისწინებული ტერიტორიის მდებარეობა და ფართობი: შირაკის
მუნიციპალიტეტში, სოფ. ჭყვიში ნიქოზის მიმდებარე ტერიტორიაზე, ჰიდ. დიდ ლიახვზე „ჭყვიში ნიქოზის“ ჯიშის, ხრეშის დამუშავებაზე;
K-38-64-E-r ნომენკლატურის ბრეზენტირებული რუკა (ლიცენზიის განუყოფელი ნაწილი);
მიწისა და სამთო მინაკუთვნის ფართობი - 1,51 ჰა.

მოსაპოვებელი რესურსის სახეობა და მოცულობა:

„[illegible]" ქვიშა, ხრეშის ჯამური მოცულობა – 45 300 კუბური მეტრი;

სალიცენზიო პირობები:

[illegible] სსიპ გარემოს ეროვნული სააგენტოს უფროსის 2014 წლის 21 ნოემბრის №1409/ს ბრძანებით

ლიცენზიის მოქმედების ვადა: 3 წელი, 21.11.2014 დან 22.11.2017 მდე

სსიპ „გარემოს ეროვნული სააგენტოს" უფლებამოსილი პირი

გავეცანი ლიცენზიის პირობებს და ვიღებ პასუხისმგებლობას მათ შესრულებაზე.

ხელმოწერა

ბ.ა.

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№23-400


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